MEDICAL AND SURGICAL REPORT

OF THE

PRESBYTERIAN HOSPITAL

IN THE

CITY OF NEW YORK

VOLUME X
OCTOBER, 1918

EDITED BY

ADRIAN V. S. LAMBERT, M. D.

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TO THE BOARD OF MANAGERS
THE PRESBYTERIAN HOSPITAL IN THE CITY OF NEW YORK.

GENTLEMEN:

I have the honor to present the Annual Report of the Surgical Department. The greater part of the volume is a description of the system of keeping our Records, of which we may justly be proud. It has been the result of many years of conscientious and painstaking labor on the part of all the members of the Visiting Staff.

There is also included a description of some of the many uses of the histories that such a system permits us to make. The Follow-Up System, which is a work only second in importance to that of caring for the patients during their stay in the hospital, is a direct result of this system, and its success is largely due thereto. The statistical review by the Pathological Department gives an idea how valuable the data gained from the Follow-Up may become.

In subsequent reports it is intended to make use of the great amount of scientific material so accumulated and arranged by our Record System as to be available for study, and to prepare a series of articles dealing with strictly surgical topics.

I wish again to express on behalf of myself and other members of the Staff our appreciation of your generosity which has made this work possible.

Sincerely,

ADRIAN V. S. LAMBERT,
Director Surgical Service.

INTRODUCTION.

THE scientific records of a hospital should represent the work which the institution has performed. Their purposes are usually considered to be twofold. They are to serve as legal evidence in a trial in the courts and they are to be made the basis of serious investigation of disease. In addition some men have attempted to have them form the basis of the efficiency of the members of the staff of Visiting Physicians and Surgeons. All these objects are praiseworthy but in addition the histories should also be a benefit to the patients themselves in a more direct personal manner than they have been heretofore. Each history should contribute to the patient's future well-being as well as to his present. This last function has often been overlooked in the past largely on account of the methods employed in the care of the histories.

To bring this about the system described elsewhere by Dr. Auchincloss was devised at the Presbyterian Hospital and has been a success. By this method additions can be made to the histories from time to time, either as follow-up notes or on subsequent admissions to the hospital and as this history serves as a permanent, ever-increasing record of an individual in his or her relationship as a patient of the hospital, it has been conveniently termed a unit history or the system as the "Unit History System."

The Unit History System as carried out at the Presbyterian Hospital combines the safety and preservation of the histories without at the same time destroying their accessibility. As each is a separate entity in itself they may be grouped or filed away as one may desire. We have found that by keeping them in consecutive number they serve the greatest number of purposes which they may be called upon to fulfill. For use in the follow-up clinic or in the

Outpatient Department, which is a constant call, they are sought for by means of the patients' name file. On a patient's readmission to the Hospital they may be called for in the same manner or simply by number, and by keeping, as we do, an elaborate diagnosis file completely cross referenced on cards containing simply a list of history numbers, groups of similar diseases may be obtained for study. The system requires an adequate clerical force and it is more expensive to maintain than other less adequate systems. The advantages from such a system are so striking and so numerous that we feel that it amply justifies the extra expense. The histories are more complete and accurate with the unit system, because every one is made to feel that his work is to be constantly used. Whenever a patient returns to the Hospital for professional advice, no matter for what ailment, whether in the wards of the original service or some other, whether in the Outpatient Department or Emergency Ward, the history is sent for in order that some additional data may be added to it. The keeping of better histories, making more careful observations, recording daily notes, have all contributed toward the better care of the patients, and the friendly criticism of one's colleagues during their subsequent use of a history has stimulated each man to improve the character of his work.

The Record Room has become a center of activity where men meet constantly, either seeking information of some discharged case or finishing histories and entering data which were not available while the patient was in the hospital. This constant careful supervision by members of the visiting staff has kept the work of the house staff more up to date and has been a great educational feature in the training of fourth year medical students as clinical clerks.

Another feature of the system at the Presbyterian which has contributed greatly toward its success has been the nomenclature of disease employed. In this terminology the exact phraseology is stated to its minutest detail and no other term, however correct, can be used. In this way the same identical terms are employed for similar conditions and the filing has thus been carried on accurately by record clerks whose knowledge of pathology and medicine has been meagre. We have found that this insistance on a precise term, although often giving rise to violent discussion, and at times perhaps great difference of opinion, has resulted in centering the thoughts of every one on the details of diagnosis and this in itself has been of benefit to patients, because it has made a demand on each man to focus his attention to the finer shades in diagnosis.

The follow-up system by which we endeavor to learn our results has been so important an element in our history system that it should be given first place among the causes of its success. The details as worked out by Dr. Corscaden are fully given in his article and we owe him a debt for our excellent system. Each visiting surgeon has a day on which he examines his return cases and with the unit history before him, he enters in it his notes. These results are then filed behind the diagnosis file after fixed periods so that one by consulting the file can tell at a glance the results for any given period of time. Of the many activities of the Record Room, this has been more of a stimulus than any other. It has made of the many ward patients personal charges and instead of being so many cases they have become part of each man's practice. It has done more to humanize the hospital service than any other one thing.

We have made no effort to ultilize the facts gained to grade the various visiting's efficiency, believing that every one is only too eager to improve and do his best. All of us follow our results with keen interest and by having a weekly review of the failures as recorded by Dr. Whipple in his article, every one is brought face to face with them.

History analysis has not been as extensively performed as we would wish and in future we hope to enlarge that field. In the few subjects in which this has been done prior to the patients' discharge, it has greatly improved the histories and increased the amount of facts recorded.

The system at the Presbyterian as presented in the following pages, has been the result of the combined efforts of the entire staff and not the product of any one man, and its success is due to my assistants on the staff and in the Record Room, whose intelligence has been great and whose loyalty to the Hospital and the patients and whose enthusiasm for and devotion to their work, have contributed toward the final result. That we have had the means of developing this elaborate system is due entirely to the generosity of the managers, who have contributed the funds for the purpose.

Adrian V. S. Lambert, M.D.

THE COURSE OF THE PATIENT THROUGH THE SURGICAL DEPARTMENT.

The surgical patients of the Hospital are divided into two groups, the out-patients and in-patients. The out-patients visit the dispensary or accident ward for treatment or for follow-up. The in-patients are housed and fed along with their treatment.

The stages of the patient's complete course through the Hospital are listed as follows:

I. Attendance at the dispensary or accident ward.
II. The process of admission to a surgical ward.
III. The reception into the ward.
IV. The period of residence in the ward.
    1. Diagnostic and therapeutic procedures.
    2. Operation.
    3. Post-operative period.
V. Discharge from the ward.
VI. Subsequent visits for treatment to the dispensary or accident ward.
VII. Follow-up visits to the dispensary or accident ward.
VIII. Death.

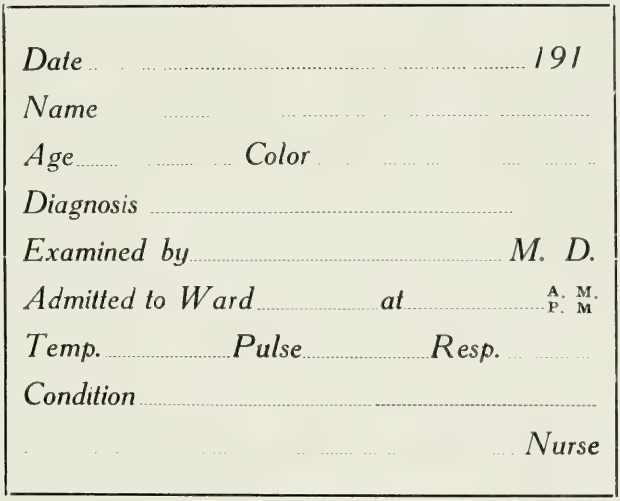
I. The dispensary is open daily between 9 and 10 except on Sundays and holidays for the admission of surgical ambulatory cases. Every new patient is given a dispensary card and a dispensary history sheet which are numbered alike. The history is filed according to diagnosis and also according to name. Since a description of dispensary methods is given elsewhere in this volume, suffice it to say that when a patient is admitted as an in-patient from the dispensary, he retains the dispensary card for future use while the history sheet is sent to his ward. Patients applying after

10 A. M. are referred to the accident ward which is always open and which is but a branch of the dispensary. The clerical management of the patients is identical with that of the dispensary. The cards and histories made out in the accident ward are numbered by the dispensary clerks. All are thus filed under one system.

II. Admission to a ward may start in any of the following ways:

1. At the hospital main entrance, the applicant may be admitted by a member of the attending or house staff.
2. So, in the accident ward, may he be admitted. Here the emergency and transported cases are examined.
3. In the dispensary, by a member of the dispensary staff or by an attending surgeon.
4. In the follow-up clinic by the attending surgeon on duty. Here we have a readmission of a former in-patient.
5. The patient may be transferred from a medical to a surgical ward. The transfer is always approved by the attending physician, by the attending surgeon consultant and by the superintendent of the hospital.
6. Nurses, doctors and employees may be admitted from their quarters. The process of admission is the same for all points of entrance. Admission must be preceded by examination by a member of the house staff, of the dispensary staff, or by an attending surgeon. Thus a doctor signs the admission documents of every case.

These documents consist of a small "admission slip" (Fig. 1) and of a "pedigree card" (Figs. 2 and 3). The admission slip accompanies the patient to the ward assigned by the admitting clerk. The pedigree card goes to the admitting clerk who fills it out and permanently retains it. The admitting clerk at the time of admission issues a "bedside-card" (Figs. 4 and 5) and a "history-sheet." At this time there is assigned to the patient his hospital number which is placed by the clerk upon the pedigree-card, the bedside-card and the history sheet. This number, an admission number, is the only one whereby the patient is identified thereafter. It is the number of his "unit history." Although he may have a dispensary number, if he again visits the dispensary after discharge from the ward, the unit history number must be referred to. In such a case, of course, the original dispensary history has become a part of the unit-history.



Date 191

Name ....

Age .... Color ....

Diagnosis ....

Examined by .... M. D.

Admitted to Ward .... at .... A. M. / P. M

Temp. .... Pulse .... Resp. ....

Condition ....

.... Nurse

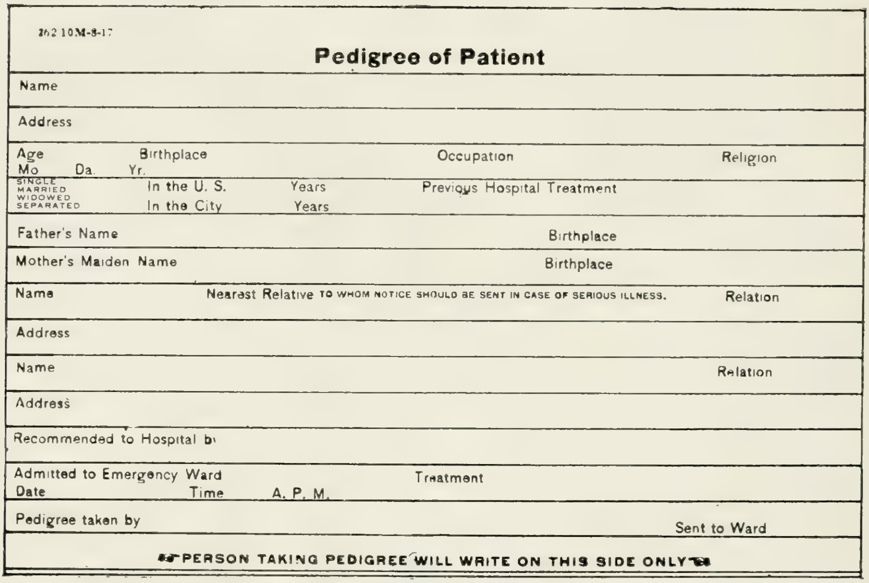
Fig. 1. Admission Slip.

The patient being admitted to the Hospital and assigned to a ward, three possibilities now arise:

1. He is escorted directly to his ward where the papers are received by the nurse in charge.
2. If all surgical beds are filled, he goes home with instructions to telephone every morning to inquire about a vacancy. When there is room, he returns; is again examined by a doctor, and if passed he follows the course of (1) above.
3. If in need of immediate operation, he is ordered prepared by the house surgeon; and the usual routine of preparation

is carried out in the accident ward, where, as a rule, he has just been admitted. After operation, he is immediately taken to the ward.

The admitting office prepares daily two lists of the day's admissions, giving the unit history numbers, the wards to which patients are assigned and where they received pre-admission care. One list includes only cases from the dispensary. This list notifies the dispensary clerks that John Smith, for example, with dispensary number (1) has been admitted to ward (2) and that he has unit history number (3). The dispensary then sends to ward (2) dispensary history (1) to be incorporated there with unit history (3) which is attached to John Smith's bed. The other list is sent to the Record Room.



262 10M-8-17

Pedigree of Patient

Name

Address

Age Mo Da. Yr. Birthplace Occupation Religion

SINGLE MARRIED WIDOWED SEPARATED In the U. S. Years In the City Years Previous Hospital Treatment

Father's Name Birthplace

Mother's Maiden Name Birthplace

Name Nearest Relative TO WHOM NOTICE SHOULD BE SENT IN CASE OF SERIOUS ILLNESS. Relation

Address

Name Relation

Address

Recommended to Hospital by

Admitted to Emergency Ward Date Time A. P. M. Treatment

Pedigree taken by Sent to Ward

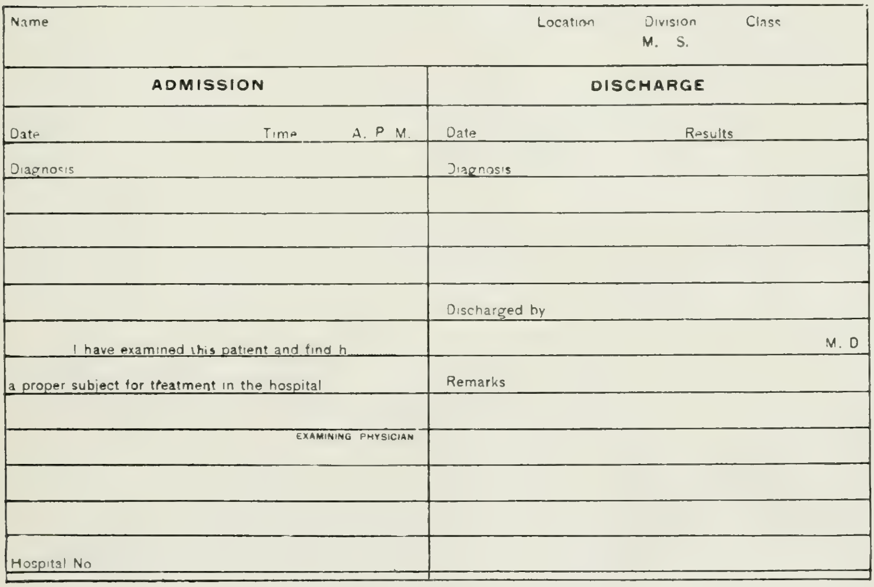
PERSON TAKING PEDIGREE WILL WRITE ON THIS SIDE ONLY

Fig. 2. Pedigree Card.

III. The reception of the patient into the ward.

The patient comes either from the main entrance or from the accident ward, excepting the few medical transfers and employees. With every patient there come three papers sent from the admitting office, and a fourth, with every case previously treated in dispensary or accident ward. These are:

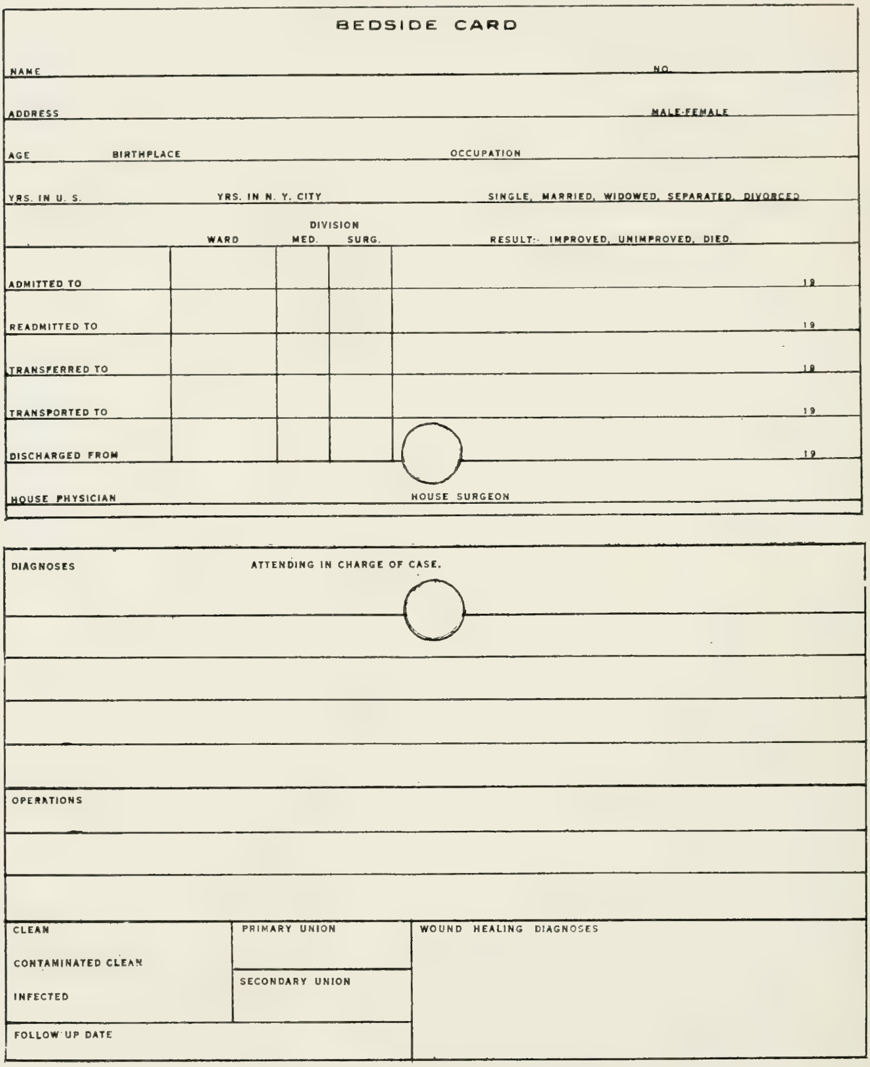
1. The admission slip giving the diagnosis and signature of the doctor who examined the case.
2. The bedside card.
3. The history sheet, the main purpose of which is to record in chronological order the patients' admissions and discharges with diagnoses and operations so that they may be seen at a glance.
4. The out-patient history (Fig. 6) is sent to the ward from the dispensary or accident ward after the admission of such an out-patient.



Name	Location Division Class M. S.
ADMISSION	**DISCHARGE**
Date Time A. P M.	Date Results
Diagnosis	Diagnosis
	Discharged by
I have examined this patient and find h	M. D
a proper subject for treatment in the hospital	Remarks
EXAMINING PHYSICIAN	
Hospital No	

Fig. 3. Pedigree Card.

With a readmitted patient, that is one who has been in a medical or surgical ward, there are also three papers sent by the office; (1) and (2) are the same, and perhaps (4), but instead of (3) is sent from the Record Room, the former unit-history. This of course already has the patient's number which continues on the new records, and it already contains the original history sheet. The new bedside card of a readmitted patient gives the former unit-history number though the other data may be altered.



BEDSIDE CARD

NAME NO.

ADDRESS MALE-FEMALE

AGE BIRTHPLACE OCCUPATION

YRS. IN U. S. YRS. IN N. Y. CITY SINGLE, MARRIED, WIDOWED, SEPARATED, DIVORCED

		DIVISION		
	WARD	MED.	SURG.	RESULT:- IMPROVED, UNIMPROVED, DIED.
ADMITTED TO				19
READMITTED TO				19
TRANSFERRED TO				19
TRANSPORTED TO				19
DISCHARGED FROM				19

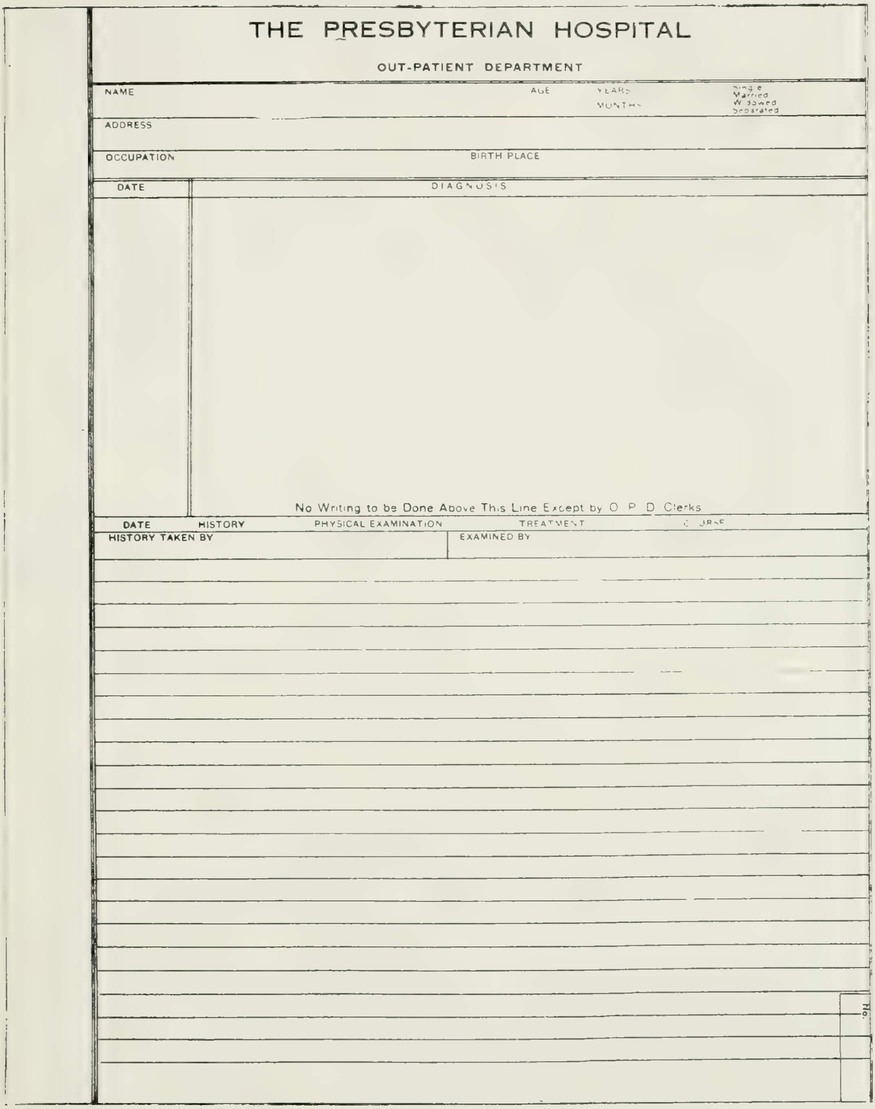
HOUSE PHYSICIAN HOUSE SURGEON

DIAGNOSES ATTENDING IN CHARGE OF CASE.

OPERATIONS

CLEAN CONTAMINATED CLEAN INFECTED	PRIMARY UNION SECONDARY UNION	WOUND HEALING DIAGNOSES
FOLLOW UP DATE		

Figs. 4 and 5. Bedside Card.



THE PRESBYTERIAN HOSPITAL

OUT-PATIENT DEPARTMENT

NAME AGE YEARS MONTHS Single Married Widowed Separated

ADDRESS

OCCUPATION BIRTH PLACE

DATE DIAGNOSIS

No Writing to be Done Above This Line Except by O P D Clerks

DATE HISTORY PHYSICAL EXAMINATION TREATMENT COURSE

HISTORY TAKEN BY

EXAMINED BY

No.

Fig. 6. Out-patient History Sheet.

The patient is received in the ward by a nurse and managed as follows:

a. The mouth-temperature, pulse and respiration are recorded upon the new temperature chart.

b. A tub-bath is given. If the temperature is over 99 degrees or if the patient arrives on a stretcher he is put to bed and a bed-bath given.

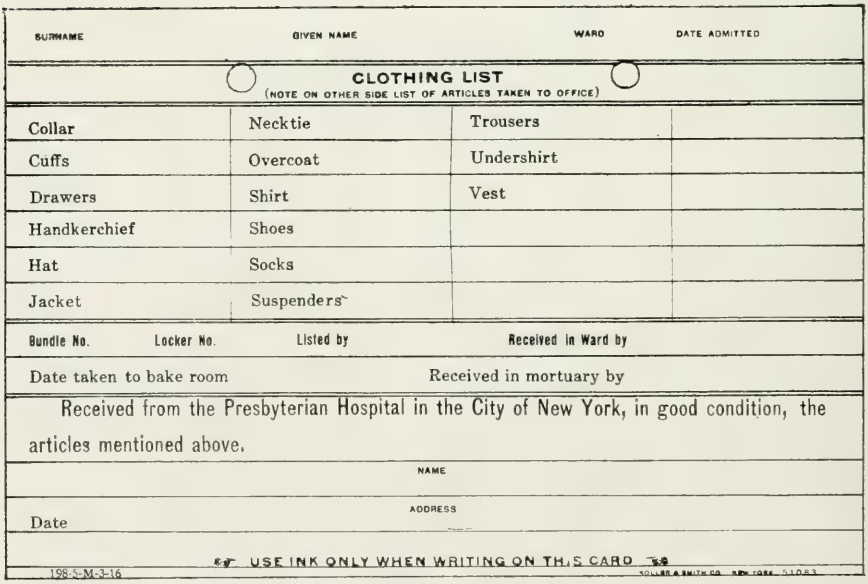
c. The hair is washed and delphinium applied when necessary.

d. The patient is weighed in ward clothing.

e. He is put to bed, in a short hospital gown opening in the back.

f. He is given soft diet until some other is ordered by a doctor. The nurse may omit the diet or give only "fluids" as in a case with fever.

g. An admission specimen of urine is sent to the laboratory.



SURNAME GIVEN NAME WARD DATE ADMITTED

CLOTHING LIST
(NOTE ON OTHER SIDE LIST OF ARTICLES TAKEN TO OFFICE)

Collar	Necktie	Trousers	
Cuffs	Overcoat	Undershirt	
Drawers	Shirt	Vest	
Handkerchief	Shoes		
Hat	Socks		
Jacket	Suspenders		

Bundle No. Locker No. Listed by Received in Ward by

Date taken to bake room Received in mortuary by

Received from the Presbyterian Hospital in the City of New York, in good condition, the articles mentioned above.

NAME

Date ADDRESS

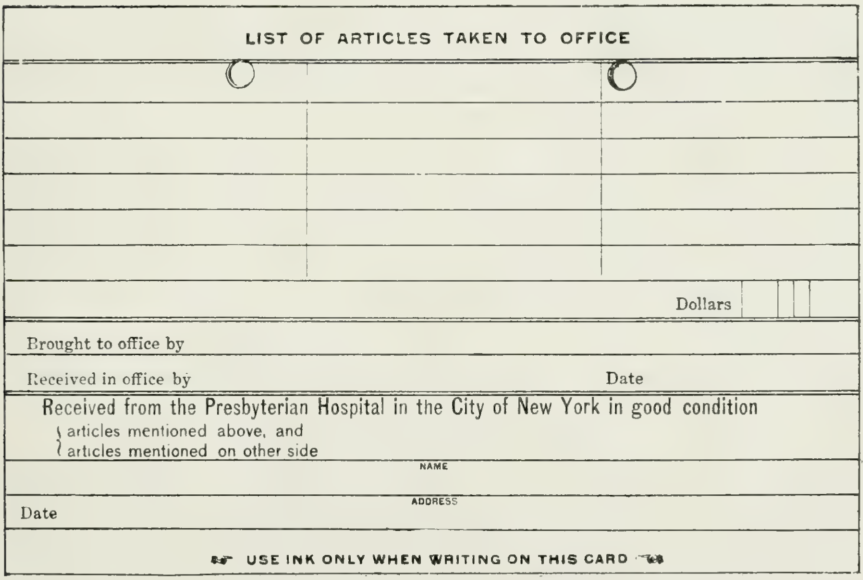
USE INK ONLY WHEN WRITING ON THIS CARD

198-5-M-3-16 [illegible] 51083

Fig. 7. Property Card.

h. An admission slip is sent to every one of the four members of the house staff, the house surgeon being given his slip personally and at once.

i. Clothing and valuables are listed upon the property card (Figs. 7 and 8). A different form is used for men and women. The clothing is checked off and stored in a special locker. The valuables are placed in an envelope and carried with the property card by a nurse from the ward to the admitting office where the nurse and the clerk sign for the deposit.



LIST OF ARTICLES TAKEN TO OFFICE

Dollars

Brought to office by

Received in office by Date

Received from the Presbyterian Hospital in the City of New York in good condition
articles mentioned above, and
articles mentioned on other side

NAME

Date ADDRESS

USE INK ONLY WHEN WRITING ON THIS CARD

Fig. 8. Property Card.

k. The patient's new clinical record sheets are hung upon his bed. These collectively are called the "chart" or "history." They consist at first of the following sheets, placed upon the chart-board from below, upward in this order:

The bedside card.

Letters or notes referring the patient to the hospital.

The history sheet.
A summary sheet.
The urine sheet.
Three plain note-sheets for history, physical examination and notes.
One blue sheet for nurses' notes.
The standing order sheet.
*The temperature pulse chart.

IV. The period of residence in the ward.

1. Diagnostic and therapeutic procedures.

The history and physical examination are done by the interne assigned to the ward. The "junior" of the house staff takes blood for a Wassermann test on all cases.† The orders of the surgeons are carried out in various ways. Part are done by the nurses, part by the house staff or by an attending himself. Part are referred to special departments of which a list is here given:

Serology,
Bacteriology,
Chemistry,
Medical Pathology (Autopsies),
Surgical Pathology (Examination of tissue removed at operation or for diagnosis),
Roentgenology,
Photography,
Cystoscopy,
Pharmacy,
Dentistry,
Mechano-therapy,
Radio-therapy,
Social Service.

---

*Samples of these forms will be sent on request.

† The blood is not taken for a Wassermann from the patients who are admitted so critically ill that this added insult is considered inadvisable.

The routine clinical pathology is done by the "junior" unless specially referred to a department.

A universal order blank which is made into pads with duplicate carbon copies is used for all specimens and patients referred to these various departments. It must be signed by a doctor. The duplicate remains in the pad for reference. These pads are found everywhere in the hospital. A preliminary report is returned to the ward upon the detachable slip. When the final report is sent it is formally added in the unit history.

2. Operation.

The patient is ordered for operation by the house surgeon. The head nurse of the ward immediately notifies the hospital office that the said patient is to be operated upon, giving the approximate hour of operation. The office forwards the news forthwith by postal, telephone, telegraph or messenger, to the family. The notice sent to the office, automatically puts that patient upon the danger list which in turn immediately and for three days after operation, permits him to see visitors for a few minutes each day.

A nurse or orderly is assigned to prepare the field of operation, and the cathartics and enemata ordered are given in the ward under the direction of the head nurse.

Verbal permission for operation is obtained from patients, but parents sign for children.

At the proper time the operating pavilion, which has been notified of the operation by the house surgeon upon a printed form, sends a stretcher to the ward. Upon leaving the ward the patient wears only an open-back nightgown and operating stockings. Women patients also wearing a cap or towel over the head. The stretcher carries blankets and draw-sheet. When the stretcher reaches the operating pavilion, the patient is lifted to the operating table in the anesthetizing room. The anesthetic is given upon the operating table.

Immediately after operation, the house surgeon fills out the post-operative order slip already in the hands of the anesthetist, and adds the orders over his signature. The patient is now returned to the ward upon an operating pavilion stretcher, accompanied by the anesthetist and an orderly.

3. The post-operative management of the patient is partly routine and partly dependent upon orders of the attending or house surgeon.

To the history have now been added the pre-operative notes, a description of the pathology and procedure at operation, the anaesthetic chart and the reports of the surgical pathologist and bacteriologist. In addition, there may be X-ray prints or reports, photographs and reports from other departments. Any person or department officially seeing or reporting upon a patient must render a written note or report to go into the record.

Certain types of cases are analyzed on specially printed charts which, when filled out, are included in the unit-history. These are used at present in the following types of cases now under study by different workers: Diseases of the biliary passages, post-operative pneumonia, neurological cases, osteomyelitis, chronic appendicitis, tuberculosis of the cervical lymph glands.

After the proper period of bed treatment the patient is allowed up in slow stages. He is now provided with a pajama suit and with bath-robe and slippers. Women are provided with dresses. A patient may receive from his friends, certain articles of food and flowers which are delivered to the ward by a messenger from the main entrance. Convalescents have access to the roofs for sun, air, exercise and rest. Here also the men may smoke. Meals in the wards are served at 7.30 and 11.30 A. M. and at 4.30 P. M. The visiting hours are from 1 until 3 on Tuesdays and Fridays and 2 until 4 on Sundays. Only three visitors on each day are allowed except to patients on the danger list and to the parents of young children. The patients are allowed to have in the ward only such articles as spectacles, writing and reading material and a few personal things.

Information about the patient is given over the telephone by the hospital "operator" as learned by her from a nurse in the ward.

The head nurse of each ward keeps daily a diet list, a list of names, ages and history numbers, and daily sends to the office a danger list made out and signed every morning by the house surgeon.

V. Discharge from the ward.

The attending indicates to the house surgeon when the case is to be discharged from the ward and what the subsequent management shall be. Upon discharge, the summary sheet of the unit-history is filled out. (See Follow-Up System, Fig. IV.)

The case may be disposed of in any of the following ways:

He may be sent home, not needing more care.
He may be referred to a private physician.
He may be sent to the dispensary or accident ward for further care.
He may be sent to a convalescent home or elsewhere by the social service department.
He may be transferred to another hospital.
He may die.

Every patient after discharge is followed up. The date of the first follow-up visit is indicated by the attending. This is intended to bring back the patient at an hour when he will be seen by the attending surgeon in charge of him in the ward.

The process of discharge is as follows:

The house surgeon writes a final note upon the clinical record and signs the bedside card. Upon the latter he writes the diagnosis, the complications, the name of the operation, the condition of wound-healing and the result of treatment.

The nurse obtains from the admitting office the key to the clothing locker-room together with the property card. Clothing, card and key are then brought to the ward where the patient is dressed. He has notified his family of the hour of his departure. He is given a follow-up card upon which is written his name and the date and hour of his first follow-up visit.

He is finally escorted by a nurse to the admitting office where he receives and signs for his valuables, and where the bedside card, property card and key are deposited by the nurse. The admitting office sends the bedside card and the head nurse sends the whole unit-history to the Record Room. Here the Record Room clerk permanently files each one.

VI. and VII. The subsequent visits as a dispensary or accident ward patient and as a follow-up case are described elsewhere in this volume. The important point is that the unit-history is sent from the Record Room to whatever department he may go.

VIII. Death in the ward.

If the patient dies unattended by a doctor, the "junior" is notified by the nurse in charge. He then comes to pronounce death. Request for autopsy is made by the house surgeon, directly of the family.

After the pronouncement of death, the nurse notifies the office which at once sends word to the family. The nurse also notifies the house staff of the division—the house surgeon, directly. The house surgeon signs the death certificate.

The body is prepared for removal by an orderly in a men's ward, by a nurse in a women's ward. An orderly takes the body, with the clothing, to the mortuary, while the valuables are retained in the admitting office for the proper recipient.

JOHN M. HANFORD, M. D.

THE RECORD ROOM.

It is too well known to state, except to emphasize, that the Hospital Record Room is still in its evolutionary stage. The chief reason why hospitals find difficulty in instituting an efficient and economic method of making hospital records is that they have been built without adequately considering the problem, and the fault is fundamentally an architectural one. It is time that hospital boards and hospital architects be made to realize this all important point. It is very doubtful whether a hospital in the country has been built with this *architectural feature* as it should be and this has been one of the main fundamental obstacles in attempting to perfect a history system at the Presbyterian Hospital. The obstacles have not been possible to entirely overcome. An effort, however, has been made to so organize the scheme for keeping these records with what facilities are at hand so that, should these architectural obstacles be overcome either in the building of a new hospital, or by changes in the present, that the fundamental principles of the scheme will not have to be radically changed.

A Record Room should be situated so as to be easily accessible to the:

1. Admission and Discharge Thoroughfares.
2. Out-Patient and Emergency Departments.
3. Executive Offices.
4. Follow-Up Organization.
5. Visiting Nurse and Social Service Organization.
6. Hospital Museum and Library together with such space as shall be apportioned off for the use of medical or post-graduate students.
7. As many of the Laboratories as possible.

It should be emphasized that it is wholly unnecessary for a Record Room to be near the wards of the hospital where so frequently it is found. When a patient is admitted to the wards of a hospital the history is kept in the ward until discharge, so that recourse to the Record Room is unnecessary. All departments that find it necessary to keep a name file or records of the Hospital patients, either in-patients and out-patients, should be accessible to the Record Room. This, of course, leads to the problem of files kept in the various laboratories and emphasizes the importance of placing a pathological building, if such is the scheme of the hospital construction, in a central place near to and in continuity with it. It is most important that all the records pertaining to a patient should be in

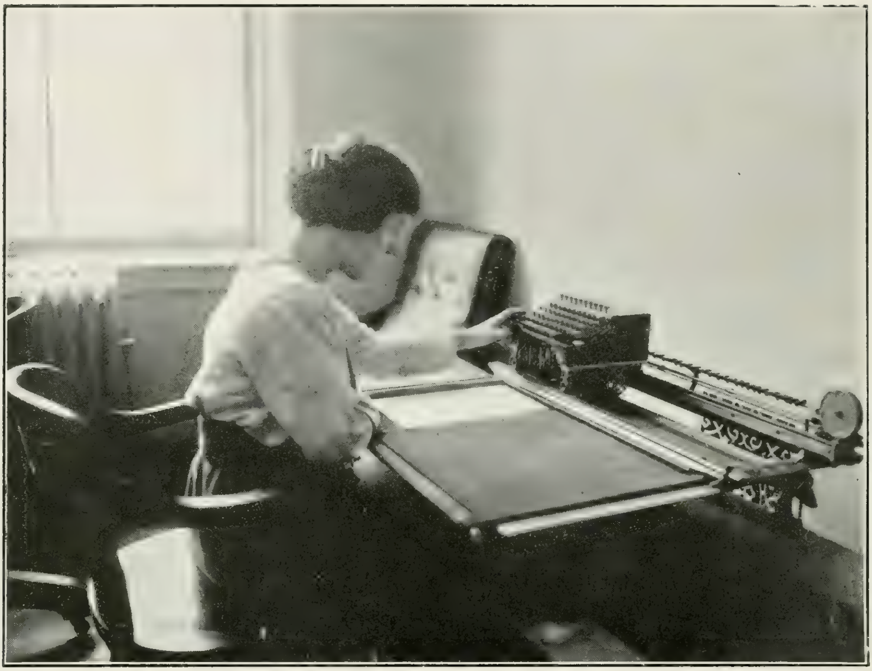


Fig. 1. Elliott-Fisher Typewriter. This shows a record clerk making a typewritten entry in a bound history.

one place: that one name file should be enough for a hospital: and that centralization in this respect should be aimed at as far as possible. In this consideration even the museum specimens and microscopical slides and sections should be considered as records. Were one to consider the space for a Record Room as a cube with six sides "contiguity" to its files must be either inclusive, that is within the cube, or in contact with one of the six sides. Or the room may be considered hexagonal in shape with eight surfaces for the different departments in immediate contact. No matter what shape or architectural plan may be selected for carrying out this main purpose it is of extreme importance that this fundamental idea of centralization should not be lost.

In describing the Record Room of the Presbyterian Hospital and its workings, let it be clearly understood that it has not attained its ideal, but that it is started towards it; that it has had to adapt itself to the architecture and the workings of this particular hospital; that other hospitals have their own individual problems that a description of this Record Room might not meet at all, though it is possible it may assist in solving some of another institution's problems; that some of the workings of this Record Room are yet to be tried; and that some of the ways in which its work is carried on are not at all the only way in which such workings can be carried on. It is not a model though it may serve as a guide. All of the recommendations in this scheme are not in use, or are in use in a modified way. Furthermore, the Hospital is indebted to many other institutions whose ideas have been used in the correlation of this system.

The Record Room at the Presbyterian Hospital.

This room is situated on the second floor far away from the Out-Patient Department, beneath the Surgical Wards, some distance from the Medical Wards, two floors above the Emergency Ward

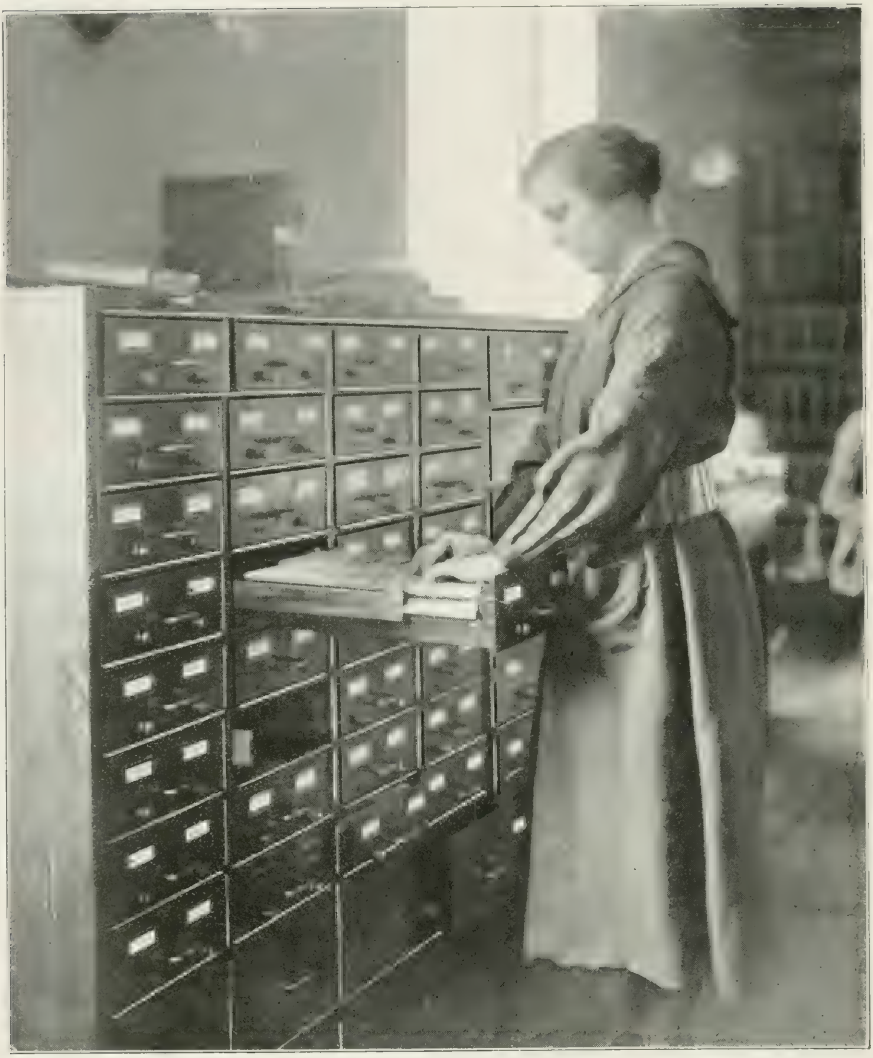


Fig. 2. The Filing Cabinet. This shows the record clerk taking a Name Card from the alphabetical file. In this cabinet are kept all of the filing cards necessary for the Name file, the Diagnosis file, the Operation file, the Follow-Up file and the Wound-Healing with Discharge Result file. 5 x 3 cards are used with the exception of the Follow-Up card.

and far away from the executive offices. It is not near any of the laboratories. For these reasons the *architectural* problems mentioned above have had to be met in various ways.

It contains four typewriting desks, one Elliott-Fisher typewriting machine (Fig. 1) for writing in bound volumes, the card files to be described below (Fig. 2), an enclosure that is wired off from the main room where the unit histories are kept (Fig. 3), two tables used extensively by members of the House Staff and Attending Staff and students, and many book shelves containing the surgical libraries donated to the College of Physicians and Surgeons by the late Dr. Charles McBurney and Dr. Frank Hartley, in addition to the surgical library of Dr. Joseph A. Blake.

The work is carried on by four record clerks, one of whom is the head clerk in charge of the Hospital Record Room, and a Record Room messenger. The Record Room is open from nine o'clock in the morning until twelve o'clock midnight. From nine o'clock in the morning until five in the afternoon there are always three record clerks at work. From four o'clock in the afternoon until twelve o'clock at night the fourth clerk is on duty. The record clerks are responsible to a Record Room Committee, composed of one member of the Medical and one member of the Surgical Attending Staff, which has charge of and is responsible for the workings of the Record Room. This committee in turn is responsible to the Medical Board of the Hospital which is in turn responsible to the Board of Managers. The meetings of the Record Room Committee are held once a week. The chief record clerk is provided with a loose-leaf book in which she writes all questions pertaining to the management, or policy of the Record Room, or complaints for the Record Room Committee to pass on and definitely settle each week. Incorrect diagnoses added to histories in the Out-Patient Department are submitted to the Record Room Committee at these meetings for correction before filing. A carbon duplicate book with a pencil attached is left in the Record Room to be used by all members of the attending

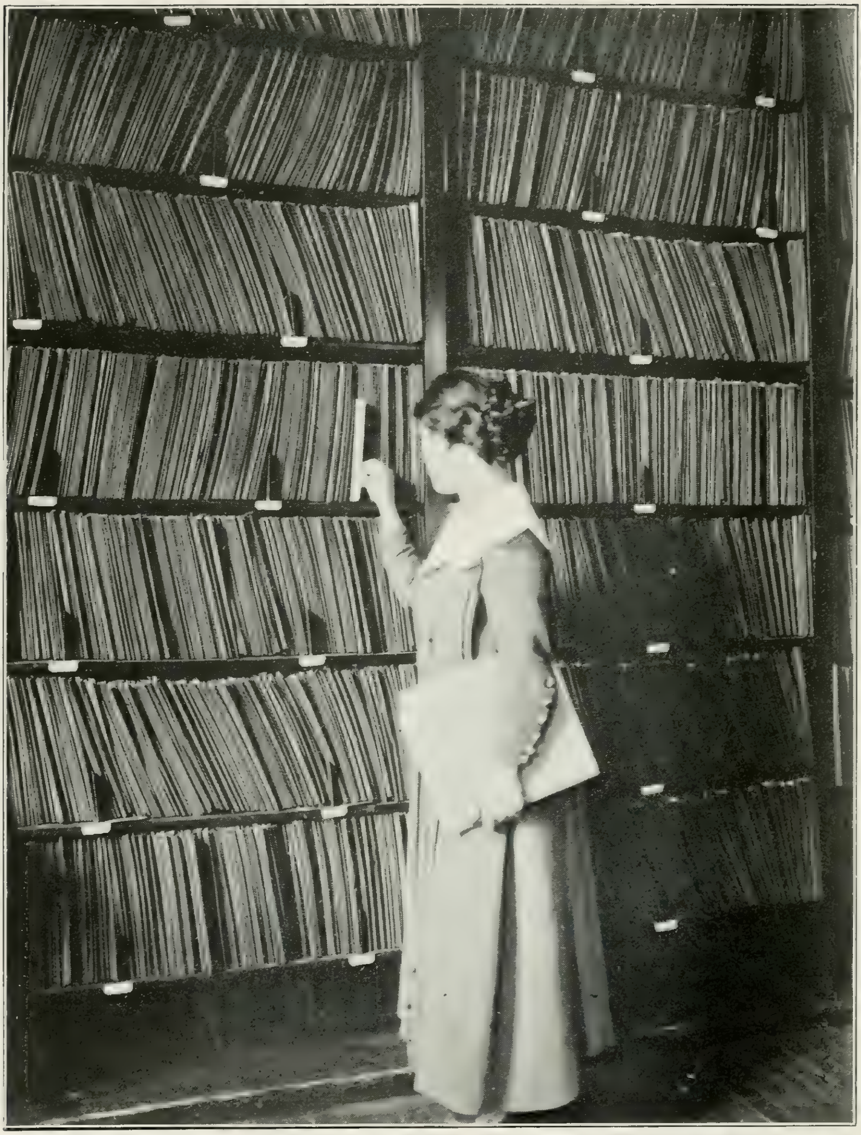


Fig. 3. The History Stack. This shows a record clerk having removed a history introducing a filler-in card indicating the destination of the history, the date and its number in its place.

or house staffs, or any one else belonging to the Hospital desirous of making suggestions in the management of the Record Room or additions to the Terminology classification. No suggestions of this nature will be considered by the Record Room Committee unless properly submitted in writing in this book. In this way a definite answer can be given every week and the result has been that many valuable suggestions and additions have been obtained.

UNIT HISTORY SYSTEM.

The Hospital history sheets are all of one size, measuring 12 inches by 9½ inches, with 1 inch margin reserved for binding. All printing, with the exception of special features, such as the temperature chart, is in black. Samples of various history forms are shown in this and the other articles.

Rules for the Recording and Filing of Medical and Surgical Histories.*

1. There shall be a Record Room Committee composed of one medical and one surgical representative, duly appointed by the Medical Board. This committee shall have charge of and be responsible for all Record Room work. The Record Clerk and the Out-Patient Department Record Clerks shall be directly responsible to them for the proper performance of duty.

2. A carbon duplicate book shall be kept in the Record Room for the purpose of entering any suggestions, criticisms, suggested additions to the terminology, or other matters connected with the Record Room or Library. Such matters must be presented in this book as therein directed, to ensure attention.

3. All Unit Histories except those properly in use elsewhere as allowed by these rules, are to be kept within the wire enclosure

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* Explanatory Note: These rules were elaborated to cover conditions obtaining at the present time at the Presbyterian Hospital, but an effort was made to ever keep in mind methods that could be advantageously used under more ideal conditions so that the present scheme of organization would not have to be cast aside entirely, but would require as few modifications as possible, should the hospital change its present building. Those features in the rules that are not actually in use in detail, but are being used in principle and can be used in detail with no disturbances to the system, are marked with an asterisk. For instance, the filler-in card system has not been started, though history requisition paper slips are being used on the same principle. It is interesting to note that since the unit history has been started that only one history has been known to be lost.

provided for this purpose. A Record Room Clerk shall be in constant daily attendance (within this enclosure) for the purpose of giving out histories from 9 A. M. to 12 o'clock midnight. From this hour until 9 o'clock the next morning this enclosure shall be locked and no one shall be allowed to have the key without a written order from the Superintendent of the Hospital. The Record Room itself shall always be open. No one shall be allowed within the wire enclosure except the Record Room Clerk, the members of the Record Room Committee, the Superintendent of the Hospital, or such persons as may be designated by the Record Room Committee.

4.* The history of every patient discharged from the Hospital since January 1, 1916, shall either be on the shelves within the wire enclosure in its proper numerical order or shall be replaced by a proper Filler-In Card. The Filler-In Card System is covered by a separate set of rules.

5. No history or any part of a history shall be taken out of the Hospital buildings for any reason whatsoever except on subpoena from a law court having jurisdiction.

6. No person shall remove or keep from the Record Room an original history, part of any such history, or any other record of any patient for any purposes whatsoever, except as follows:

a. On subpoena from a law court having jurisdiction.

b. On history requisition card signed by the Superintendent.

c. On history requisition card signed by any member of the Medical, Surgical or Pathological Service for use in a clinic.

All histories taken from the Record Room for these purposes must be returned the same day.

d. On a history requisition card signed by any member of the Pathological Service for use at an autopsy or for making an abstract of the history.

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* See note page 30

All histories taken from the Record Room for these purposes must be returned within 72 hours.

e. On a history requisition card signed by any member of the Medical, Surgical or Pathological services, or a member of the Out-Patient Department at the discretion of the Record Room Committee, for his personal use in abstracting or studying a case or a group of cases.

All histories taken from the Record Room for these purposes must be returned within seven days or a new receipt must be given for them if it is desired to keep them for a longer period of time. It shall be the duty of the Record Clerk to obtain at the end of seven days either the histories or the new receipt.

f. On a history requisition card signed by the Entry Clerk for use in the wards on a patient's readmission to the Hospital.

All histories taken from the Record Room for this purpose are to remain in the wards until the patient is discharged, transported, transferred or dies.

g. On a history requisition card signed by any member of the Medical, Surgical or Pathological services for use at a clinic or for treatment, for a history of a patient at Follow-Up Clinic, Dispensary or Accident Ward. He shall give the signed history requisition card to the Follow-Up Worker, or such department or individual already responsible who is to return either the history, or the history requisition card to the Record Room at the end of a Follow-Up Clinic, or through the Record Room messenger calling for it the same day. The person taking the history for use in the clinic or for treatment shall be responsible for its return the same day.

h. On a history requisition card signed by the Follow-Up Worker for use in the Follow-Up Clinic.

These histories or history requisition cards therefore, must be returned to the Record Room by the Follow-Up Worker at the close of the Follow-Up Clinic.

i. On a history requisition card signed by the doctor receiving the history for use in making Follow-Up notes on a patient returning to the Hospital at a time when the Follow-Up Clinic is closed, or for examining a case applying for readmission to the Hospital. Any physician or surgeon qualified by the hospital to make such examination is entitled to sign for the necessary history. When he has finished with the history, he shall leave it in the properly designated place. It shall be called for the same day by the Record Room messenger.

7. The histories of patients are under the seal of professional secrecy. They shall remain in the custody of the Superintendent and shall not be available nor communicated to anyone except by his order. They are not available to nurses, hospital employees, medical students nor anyone not connected with the Hospital except by the order of the Superintendent.

8. From the unit history standpoint a patient who has not been treated in the wards of the Hospital since January 1, 1916, shall be a "new patient." On admission to the Hospital the Entry Clerk shall make out a bedside card, a history requisition card as is explained in the Filler-In Card rules, and a front page of the history entering on each the patient's number. This page of the history and the bedside card shall be sent to the ward with the patient. The history requisition card shall be called for by the Record Room messenger at 9 o'clock the next morning.

9. From the unit history standpoint a patient who has been treated in the wards of the Hospital after January 1, 1916, shall be an "old patient." On readmission to the Hospital the Entry Clerk shall make out a bedside card and an order on the Record Room, in the form of a history requisition card as indicated in the

Filler-In Card rules, for the former old unit history which was written during his previous stay in the wards. The number of his history during his previous stay shall be entered on the bedside card. The bedside card shall be sent to the ward with the patient. The history requisition card shall be sent to the Record Room immediately by a messenger from the Admitting Office and this messenger shall then take the history to the ward after signing for it.

10. At 9 o'clock each morning the Entry Clerk shall have ready:

> The bedside cards of all patients who have been discharged, or who have been transferred, or who have died during the 24 hours preceding that midnight.
>
> Ward requisition history cards properly filled out, with the data concerning the newly numbered and transported cases preceding that midnight as outlined in the Filler-In Card rules.
>
> These cards shall be called for at this time by the Record Room messenger.

11. The Out-Patient Department Record Clerk shall report at the Record Room each morning at 9 o'clock for the purpose of preparing such name cards and substitute Out-Patient Department history forms as are necessary.

12. It shall be the duty of the Entry Clerk to send to the ward the Out-Patient Department history of all patients admitted from the Out-Patient Department.

13. A patient is considered *transferred* when he is moved from one service of the Hospital to another service, that is from the Medical Service to the Surgical Service or vice versa.

When a patient is to be so transferred the nurse in charge of the ward from which the patient is to be transferred shall immediately send the Entry Clerk his bedside card, properly signed.

The Entry Clerk shall make out a new bedside card, entering on it the number of the history, and give it to the nurse who brought the original bedside card. This nurse shall take the new bedside card back to the ward where the patient is and the nurse in charge of this ward shall send this bedside card, the history and patient together to the ward to which he is to be transferred.

The Entry Clerk shall see that this old discharge card is properly filled out and collected by the Record Room messenger at 9 o'clock next morning.

When a patient is sent to another hospital it is not considered a transfer in the sense of these rules. The patient is discharged as in any other case.

14. A patient is considered *transported* when he is moved from a ward to the private corridor or vice versa, provided he remains on the same service, or when he is moved from one medical division to another medical division or from one surgical division to another surgical division.

When a patient is so transported the patient, bedside card and history are sent to the new ward after arrangement with the Entry Clerk.

The nurse in charge of the ward to which the patient is sent shall immediately notify the Entry Clerk that such a patient has been received and the Entry Clerk shall then fill out a ward history requisition card to be collected by the Record Room messenger at 9 o'clock the next morning indicating each such transportation.

15. The nurse in charge of the ward shall allow the Record Clerk to take to the Record Room a history of a patient in order to make an abstract of that history, the history to be returned to the ward as soon as possible. The Record Clerk shall leave with the nurse in charge of the ward a properly signed history requisition card for any history so taken.

16. On the discharge or death of a patient the nurse in charge of the ward shall see:

First—That the bedside card properly signed is delivered immediately to the Entry Clerk.

No case shall be discharged until the bedside card is properly signed, except by permission from the Superintendent.

Second—That the history properly arranged and containing, in case of death, the time at which the patient died is delivered immediately to the Record Room.

17. The Record Clerk shall compare the bedside cards and the histories turned in and shall report daily to the Record Room Committee any missing histories or non-observance of rules.

This report and all questions, suggestions, etc., which the Record Clerk wishes to bring to the attention of the Record Room Committee shall be entered in a book kept for this purpose.

18. The Record Clerk shall keep a daily census of the histories in the wards and the wards in which they are.

19. The Record Clerk shall keep the ward history requisitions signed by the Entry Clerk and messenger removing the history to the ward, until the history is returned to the Record Room, and they shall then be kept on file for use as the Record Room Committee shall designate.

20. The Record Clerk shall file the bedside cards alphabetically under the patient's name in drawers provided for that purpose. These shall be permanently preserved as an alphabetical name index file. See Fig. 16.

21. The Record Clerk, previous to filing, and after the discharge card and history have been passed on and signed by the proper attending, shall copy from the bedside card on the history of the patient who has been discharged or who has died, the diagnosis, operation, result and whether an autopsy has been performed.

In case an autopsy has been performed, the diagnosis shall not be written on the history until the autopsy report has been received and the diagnosis on the bedside card has been made to conform with the autopsy diagnosis by the Record Room Committee.

In case of transfers, it shall be the duty of the Record Room Committee to correct the bedside cards when necessary, and the correct diagnosis arrived at by this committee shall be copied on the history by the Record Clerk.

22. All histories are considered to be ready for binding when they are received in the Record Room. It shall be the duty of the Record Clerk to bind all histories immediately. Out-Patient Department histories shall be bound with the corresponding ward histories. Autopsy reports shall be added to the appropriate history when received. Histories shall not be held unbound awaiting the autopsy reports or for any other reason.

23. If, for any reason, the history of an old patient is not in the Record Room at the time of his readmission, the Record Clerk shall so notify the ward and then make every effort to obtain the history and send it to the ward as soon as possible.

24. The Record Room clerks shall not make abstracts or copies of histories during their regular hours.

No abstracts of any histories shall be sent out of the Hospital except with permission of the Superintendent. *Exceptions*: Attending physicians or surgeons may make out and send out abstracts of histories of their own private patients.

25. On the discharge, transfer or death of a patient, the House Physician or House Surgeon shall be responsible.

First—Filling in immediately the medical or surgical data on the bedside card.

Second—Writing and signing a complete final note on the patient's history.

26. In writing the diagnosis on the bedside card and history use the exact terms contained in the nomenclature as printed in bold-faced type, thus:

"CONTUSION OF SCALP"

If two conditions are present, record first the most important, that is the one which has given the distinctive character to the course of the case. Thus a case of acute appendicitis which develops pneumonia, whether the patient dies of pneumonia or not should be recorded:

"ACUTE APPENDICITIS"
"LOBAR PNEUMONIA"

All operative procedures shall be indicated on the bedside card according to the nomenclature.

27. The bedside card must be filled out legibly in ink and kept in neat condition (see Fig. 5).

28. The Observation Ward is to be considered a part of Ward I and all patients going to the Observation Ward are to be considered as having been admitted to Ward I.

29. Laboratory reports, X-ray prints, photographs, etc., received in the Record Room after the discharge of a patient shall be posted in the histories as the Record Room Committee shall direct.

30. The Record Room Clerk shall be responsible for the maintenance of the Alphabetical Name File, the Diagnosis File, the Operation File, the Discharge Result and Wound Healing Diagnosis File, the Follow-Up File in such manner as the Record Room Committee shall direct.

31. The Record Clerk shall post each day on a board near the front door of the Hospital the names of the men on the medical and surgical staffs whose work on histories of discharged patients is unfinished.

32. The Record Room Clerk shall be responsible for the observance of the rules for the Filler-In Card System and for such part of the Follow-Up Rules as concern her department and shall keep only such additional visible indices or files as shall be ordered by the Record Room Committee.

*FILLER-IN CARD SYSTEM REQUIREMENTS.

1. *Cards.*

Filler-in cards: These cards shall be of cardboard 11 by 12

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† See note p. 30.

inches in five colors, blue, red, yellow, green and white, with central index guide projections.

2. *History Requisition Cards.*

a. 5 by 3 inch chronological index cards. See Fig. 20.

b. 5 by 3 inch cards in five colors, blue, red, yellow, green and white to correspond with the filler-in cards marked with lines and "signature" printed at the bottom. The green cards which are the ward history requisition cards to be printed as per sample.

2. *Rubber Stamps.*

To be provided for the names of individuals and departments entitled to remove a history from the Record Room. These to be ordered by requisition by the Record Room Committee.

A date stamp.

3. *Filler-In Card Rack.*

To contain the different groups of filler-in cards within the wire enclosure.

4. *Filing Drawer.*

To contain the chronological file and the history requisition cards.

5. *Statistical Case History Boxes and Lockers in the Record Room.*

For groups of case histories desired for study by an individual.

6. *Record Room Messenger.*

7. *Messenger's Bag.*

Bag that can be slung from the shoulder to be used by the Record Room messenger for carrying histories and history requisition cards.

8. *Case History Boxes.*

Suitable case history boxes to contain histories sent to the Follow-Up Clinic, Dispensary, Accident Ward, Examining Room, X-Ray Room or elsewhere in the discretion of the Record Room Committee.

FILLER-IN CARD RULES.*

1. Every unit history removed from the wire enclosure shall have its appropriate filler-in card inserted in its place on the shelves.

2. An appropriate requisition card must be signed by any individual or department authorized to remove a history from the wire enclosure before so doing. This card shall be marked with the date and the number of the history and filed under the day the history is due to return.

3. Histories removed for statistical research in the Record Room shall be placed in the statistical history locker provided in the Record Room for that purpose. These histories shall not be removed from the Record Room.

Histories removed for statistical research outside of the Record Room shall be sent in the statistical case history boxes provided for that purpose by the messenger to such place as designated by the individual authorized to remove case histories from the Record Room for that purpose. Provision must be made by individuals thus removing case histories, that these histories may be accessible to the Record Room messenger should they be required elsewhere. At the end of seven days these histories shall be called for by the messenger and replaced on the shelves unless a renewal slip has been signed. These renewal history requisition cards will not be accepted, signed in advance.

4. Every filler-in card inserted to replace a history already on the shelves shall be dated with a stamp on the date of removal.

5. Ward requisition cards.

On admission, on readmission, and on transportation of a patient, the Entry Clerk shall make out a green "Ward Requisition Card," which shall be called for daily at 9 A. M. by the Record Room messenger when the discharge and transfer cards are also called for. These ward requisition cards shall be kept in serial order in the chronological filing drawer but not filed chronologically as is the case in all other history requisition cards. The bedside cards of "Transferred" patients, and the ward requisition cards of "Transported" patients thus sent up shall be kept with the green admission or readmission history requisition card already serially filed in the chronological filing drawer.

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* See note page 30.

A filler-in card shall be inserted in advance of the case histories on the shelves for every admission as indicated by the "Admission" Ward requisition cards coming from the Entry Clerk every morning.

6. Five main groups of filler-in cards and history requisition cards shall be used, colored as follows:

1. Blue—Dispensary.
2. Red—Accident Ward.
3. Yellow—Follow-Up.
4. Green—Hospital Ward Requisition Cards.
   See sample.
5. White—For individuals or other departments and stamped accordingly.

7. The stamping of the filler-in cards and jurisdiction over histories to be removed from the wire enclosure shall be left to the Record Room Committee.

Description of Unit History System.

The Unit History System requires that every patient admitted to the Hospital shall receive an admission number. Since January 1, 1916, every case receiving such an admission number is provided with a history that subsequently is bound in such a manner that additional sheets can at any time be added. The Out-Patient Department, comprising the Accident Ward and the Dispensary, both surgical and medical, is provided with history forms, the same size as the hospital histories, so that when a patient is admitted through either one of these branches of the Out-Patient Department the record that has been made is sent to the ward with the patient and subsequently bound with the history on discharge. In fact all cases admitted to the Hospital are now given an O. P. D. history sheet on admission. From that time on should this patient go to the Out-Patient Department, either for treatment or for Follow-Up work, or observation, all notes are made in the bound unit history. Furthermore, should the patient be re-admitted to the wards of the Hospital the bound history is sent to the ward with the patient and on discharge the additional history is bound with the former record, so that no matter where the patient is treated in the Hospital, there is but one record. Thus all the medical records pertaining to a patient are bound in one volume. Thus far the idea of the so-called unit history system is complied with.

There are, however, two forms of records pertaining to patients that are not included in their history. First the data belonging to the patient kept by the Executive offices, such data having largely to do with the economic status of the patient, whether a free patient occupies an endowed bed, or if a pay patient in the ward, how much the patient is paying, or, if a private patient, the charges and bills rendered, etc. The other type of information not included in the bound volume is the Social Record of such patient as has been dealt with by the Social Service Department. It is sincerely hoped that in time both these types of information will be bound with the histories in one place. With reference to the data of the Social Service Department, it is well to mention one of the greatest needs today in the carrying on of Social Service work and making it effectual, namely, a Social Terminology. If a terminology for the classification of social conditions can be written along the same lines as the Terminology of Diseases, so that cases can be grouped according to their social status as well as their medical status, such cases can be cross-filed according to their medical and social status, thus making the record of individual patients and groups of patients much more valuable than when grouped according to either status alone. This would be of incalculable benefit if done in all hospitals, for the benefit of public health workers as well as the civil, state and even federal legislators.

The Record Room rules indicate the manner in which the entry clerk, through whom all patients are admitted, notifies the Record Room of the admission of a case, whether the patient has applied to the Hospital at the front door, or through the Emergency Ward, or through the Dispensary. Let us follow what happens to the history and the patient in the ward, and what happens to the history on discharge or death, and subsequent to discharge.

During the stay in the ward, additional sheets are added to the history according to the various needs that arise. If a patient is operated on, the surgeon doing the operation is required to write or dictate a complete *description of the operation* himself. Previous to any operation the surgeon in charge of the case is required to *make an ante-operative note* supplementary to the history and physical examination done by the House Staff in which he sums up his view of the case, his recommendation for treatment and finally his diagnosis.

At the time of operation the *anaesthetist* is required to ask the surgeon, before operating, his *ante-operative diagnosis*, which is written down on the anaesthetic sheet. At the end of the operation the anaesthetist is required to ask the surgeon the *post-operative diagnosis* and the *type of case* it is from the standpoint of wound healing, whether Clean, Contaminated Clean, namely a case that is started as a clean case but has avoidably or unavoidably been contaminated during the operation—or Infected. In the post-operative course subsequently wounds are described as healing by Primary Union or by Secondary Union. An arbitrary time limit of two weeks is chosen for convenience and description, during which time if the wound remains closed it is classified as having healed by primary union. If the patient is discharged from the Hospital before two weeks a wound that has remained closed until the time of discharge is also classified under primary union. This arbitrary classification, however, does not interfere with classifying the more specific condition as indicated in the list of Wound Healing Diagnoses. These diagnoses are to be added either on the discharge card or subsequent to discharge, if the patient is seen in the Out-Patient Department or through the Follow-Up. Thus, for instance, it is quite possible that a wound may have been closed for a period of two, three or four weeks or more, be classified as primary union, yet subsequently be found to have a hernia or a deep-seated, slow forming abscess.

A file has been started to classify the Discharge Results and the Wound Healing Diagnoses. (See Fig. 4a.) This is done in the following manner; at the weekly meeting of the Surgical Attending Staff every man reviews his discharges for the week and marks the case according to the Classification of Results as outlined by Dr. Codman of Boston. These results are considered Discharge Results and are not "End Results." The so-called "End Results" are secured in the Follow-Up Interval Results as indicated in the Diagnosis File.

Every case that has been operated on is also given a Wound Healing Diagnosis. As has been indicated above, this is given in the ward before discharge and written on the bedside card by the house surgeon. A list of Wound Healing Diagnoses has been made, as indicated below, and these diagnoses are filed according to the Type of Case the patient was considered at the time of operation, either Clean, Contaminated Clean or Infected. Every operator has such a file made out under his own name. The method of filing is also indicated below.

DR. CODMAN'S CLASSIFICATION

ALL RESULTS OF SURGICAL TREATMENT WHICH LACK PERFECTION MAY BE EXPLAINED BY ONE OR MORE OF THE FOLLOWING CAUSES.

Errors due to lack of technical knowledge or skill	E—s
Errors due to lack of surgical judgment	E—j
Errors due to lack of care or equipment	E—c
Errors due to lack of diagnostic skill	E—d

These are partially controllable by organization.

The patient's enfeebled condition.................................. P—e
The patient's unconquerable disease.................................. P—d
The patient's refusal of treatment.................................. P—r

These are partially controllable by public education.

The calamities of surgery or those accidents and complications over which we have no known control.. C

These should be acknowledged to ourselves and to the public, and study directed to their prevention.

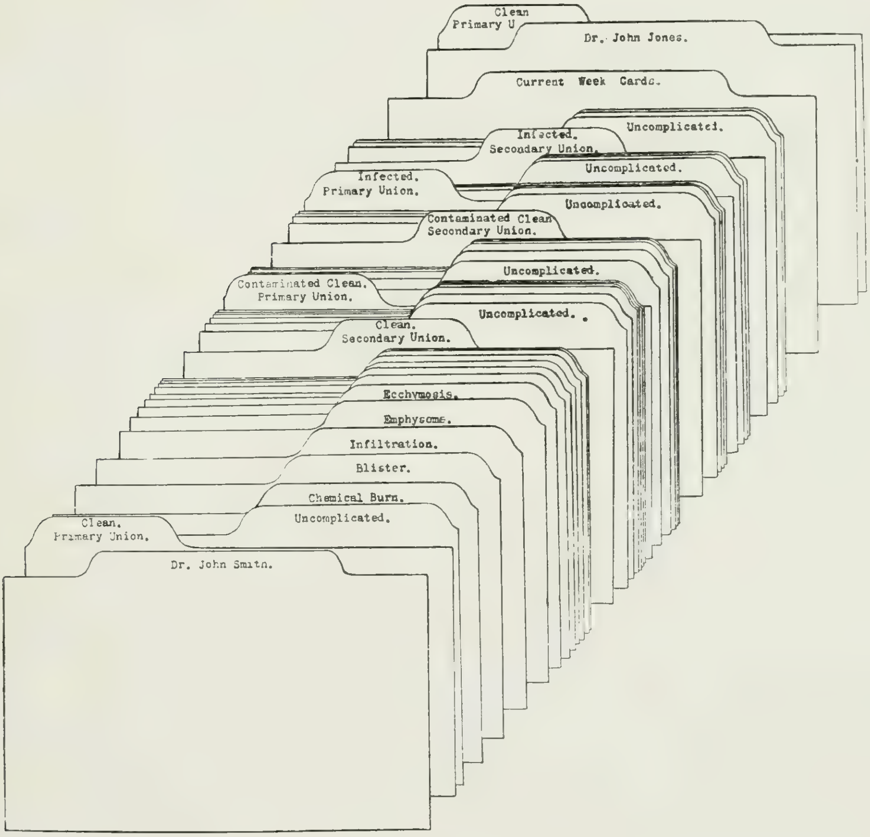

Clean
Primary U
Dr. John Jones.
Current Week Cards.
Uncomplicated.
Infected.
Secondary Union.
Uncomplicated.
Infected.
Primary Union.
Uncomplicated.
Contaminated Clean
Secondary Union.
Uncomplicated.
Contaminated Clean.
Primary Union.
Uncomplicated.
Clean.
Secondary Union.
Ecchymosis.
Emphysema.
Infiltration.
Blister.
Chemical Burn.
Uncomplicated.
Clean.
Primary Union.
Dr. John Smith.

Fig. 4a. Wound Healing and Summary on Discharge Card. The wound-healing diagnoses, together with the operator's classification of the case at the time of operation, are filed here weekly. The discharges of the week are kept unfiled until the Staff Meeting has been held and these cases have been reviewed and summarized.

If it is considered that a patient's handling in the hospital has resulted in a satisfactory manner, whether the result has been favorable or not, the case is O. K.'d. Thus— there may have been an error in diagnosis or an error in judgment yet the patient has been discharged with a satisfactory result. The errors are listed but the case is marked O. K. If, however, the result has not been satisfactory or the condition of the patient has been impaired through such errors during the stay in the Hospital or unnecessarily prolonged, the O. K. is omitted. A reduction of a Summary Sheet of the Wound Healing Diagnoses and Discharge Summaries, used in the analysis of each surgeon's cases is shown in Fig. 4b.

DR. JOHN SMITH

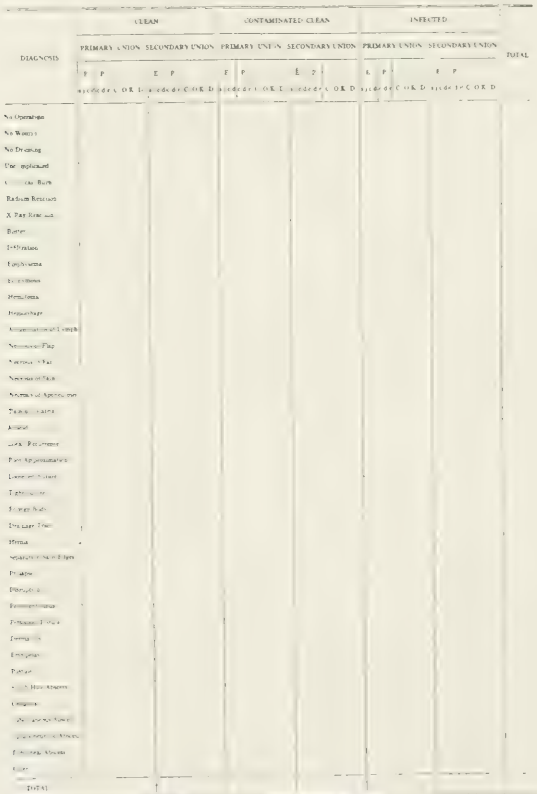


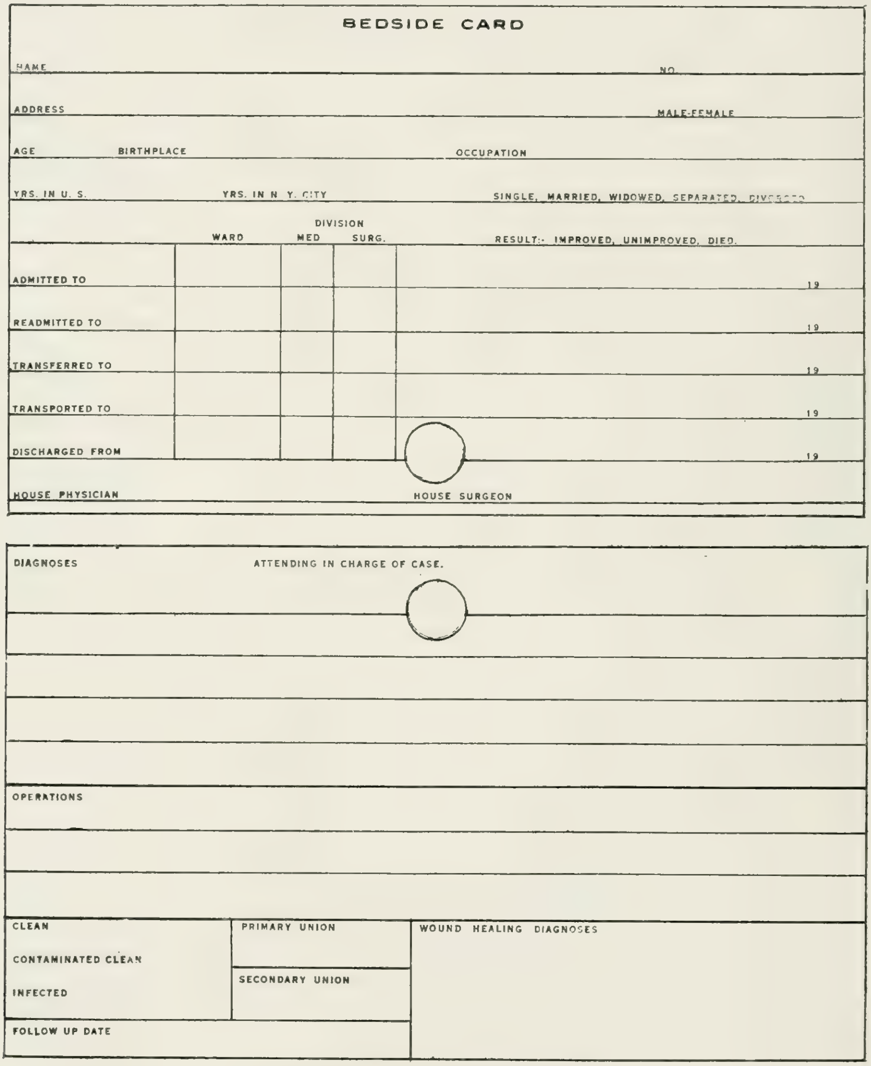
Fig. 4b Reduction of Summary Sheet of the Wound-Healing Diagnoses and Discharge Summaries. This sheet is to be used to summarize each operator's wound-healing results and the summary on discharge from the hospital according to Dr. Codman's classification.

The *surgical pathologist's report* is typewritten in the surgical pathology laboratory and placed on the chart by the clerk from that laboratory.

The *X-ray report*, *Photographs* and *Reduction of X-rays*, which in the year 1917 amounted to 7,460 prints, and the *Reports* from the *Bacteriological*, *Chemical* or *other laboratories*, are fixed to the histories by the members of the House Staff after they have been sent to the wards. Laboratory reports that are sent to the wards after a patient has been discharged are sent to the Record Room and are there copied in the history by a Record Room clerk. *Notes on all dressings, notes on various forms of treatment, changes in the condition of a patient*, and *consultations* are required of both the House and Attending Staff on both the medical and surgical sides.

Before a patient is discharged a Summary Sheet, p. 93, is filled out partly by the House Physician or House Surgeon and partly by the Attending Physician or Surgeon in charge of the case. The *final diagnosis* and *operative procedures* are written on the discharge card by the House Physician or House Surgeon and must conform with the Terminology that has been adopted by the Hospital for the Classification of Disease. On the medical side these diagnoses are visaed by the Attending Physician and his name written on the history. On the surgical side an Attending Surgeon from each division examines every history that has been turned in from his division in the Record Room and signs it after he sees the history is complete and the discharge card has been correctly and completely made out. The histories are bound and put on the shelves, but no discharge cards are filed until this is done.

On the *discharge* of a patient the history is sent to the Record Room, as indicated in the rules, and the *discharge card*, Fig. 5, sent to the entry clerk's office, where the diagnosis and other data is collected for use in the Executive offices. Every morning at nine o'clock these discharge cards, the cards of patients transferred from one division to another, also the ward history requisition cards of the preceding day, are called for by the Record Room messenger at the entry clerk's office and brought to the Record Room. On their receipt in the Record Room a record clerk binds each history after



BEDSIDE CARD

NAME NO.

ADDRESS MALE-FEMALE

AGE BIRTHPLACE OCCUPATION

YRS. IN U. S. YRS. IN N. Y. CITY SINGLE, MARRIED, WIDOWED, SEPARATED, DIVORCED

		DIVISION		
	WARD	MED	SURG.	RESULT:- IMPROVED, UNIMPROVED, DIED.
ADMITTED TO				19
READMITTED TO				19
TRANSFERRED TO				19
TRANSPORTED TO				19
DISCHARGED FROM				19

HOUSE PHYSICIAN HOUSE SURGEON

DIAGNOSES ATTENDING IN CHARGE OF CASE.

OPERATIONS

CLEAN CONTAMINATED CLEAN INFECTED	PRIMARY UNION SECONDARY UNION	WOUND HEALING DIAGNOSES
FOLLOW UP DATE		

Figs. 4 and 5. Bedside Card.

assembling the sheets in their proper order, stitching them together on a sewing machine of a book-binder's type, Fig. 6, and if the patient is a re-admitted case, assembles and stitches the new history with the former history under the same cover, Figs. 7-15 inclusive. These histories together with the discharge card are then set aside for the *inspection of the Attending Surgeon*, who examines them and signs them and corrects the card if necessary before filing. When a history has been completed and visaed by an Attending Surgeon or Physician and has his signature, it is placed in a basket for finished histories. Should a history be incomplete, the fact is noted on a visible index file kept in the Record Room. In this way bacteriological or pathological reports, X-ray prints, reductions on photo-

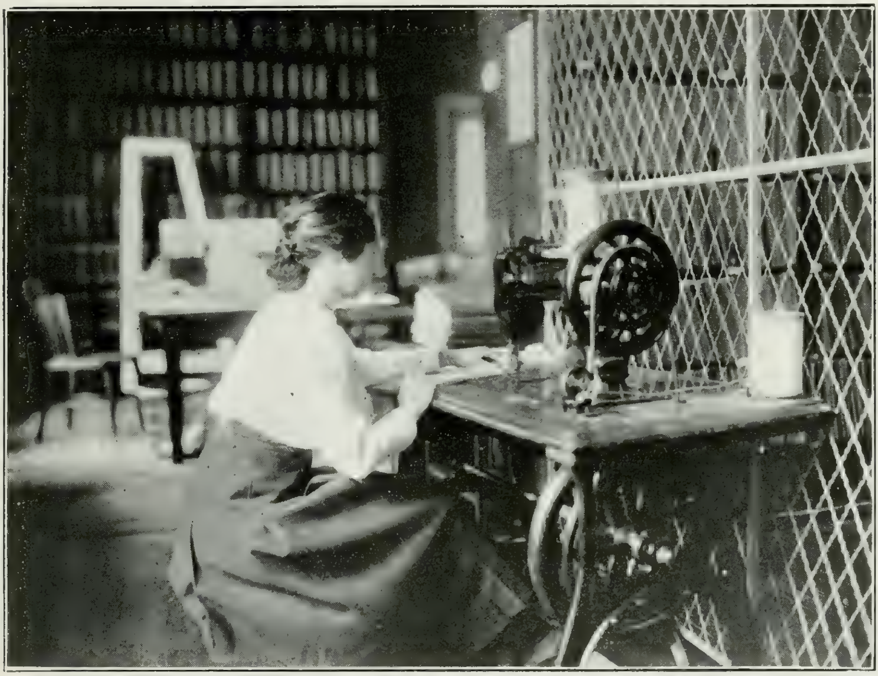


Fig. 6. Sewing Machine for stitching the individual sheets of a history together before it is about to be bound in a cardboard binder.

graphs that may not yet have been placed on the history are filed before the Attending signs it. If the patient has died, and an autopsy has been performed, the discharge card is not filed until the complete autopsy report has ben received from the pathological department. The cards of all these cases are kept in a separate

Fig. 7. History binder closed, including history.
(These history forms are made by
Gaylord Bros., Syracuse, N. Y.)

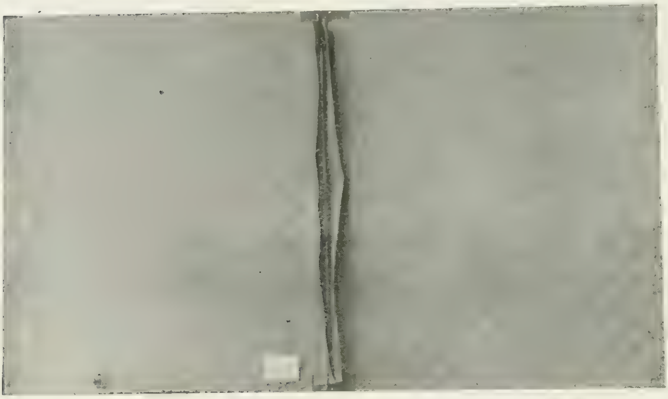
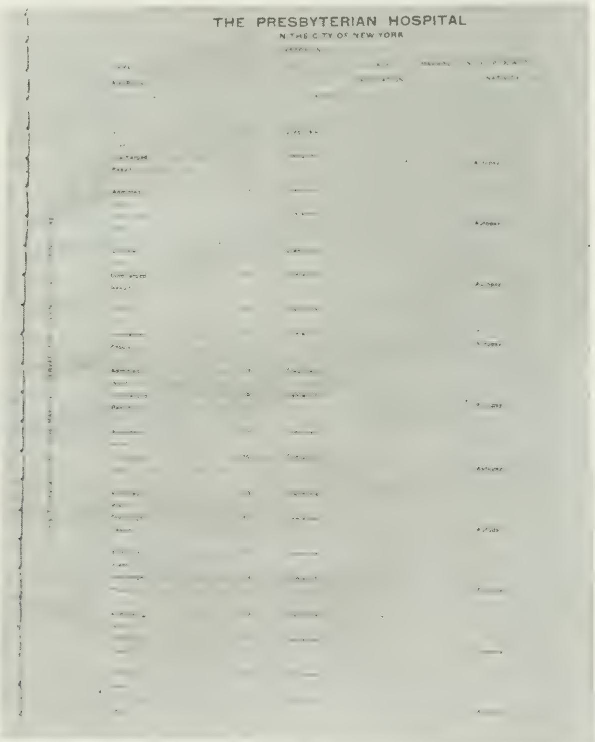


Fig. 8. History binder opened with no history sheets in it, showing gummed strips between which the stitched history is to be pasted.

group as representing *unfinished histories* and a visible index is posted in the Record Room of all histories that are unfinished.

The names of the Attending or House Staff who are responsible for unfinished histories are posted prominently opposite the front door of the Hospital every morning for it is required that Attendings inspect histories that have arrived in the Record Room within forty-eight hours after their arrival. This inspection of the histories by the Attendings responsible is a most important element in the working of the system.



THE PRESBYTERIAN HOSPITAL

IN THE CITY OF NEW YORK

Fig. 9. Front sheet of history stitched in a machine to other history sheets ready for binding.

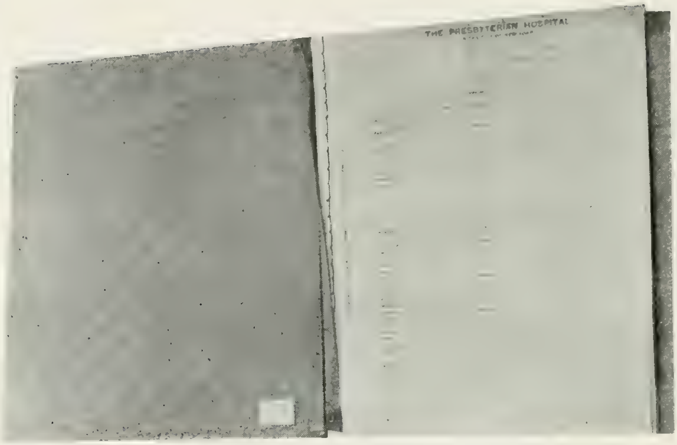


Fig. 10. History sheets stitched together, inserted between the gummed strips of history binder ready for pasting. (Front view.)

The discharge or "bedside" card is then filed alphabetically in the *Name File*, Fig. 16, and has, of course, the number of the history belonging to that patient on it. The diagnoses and the operative

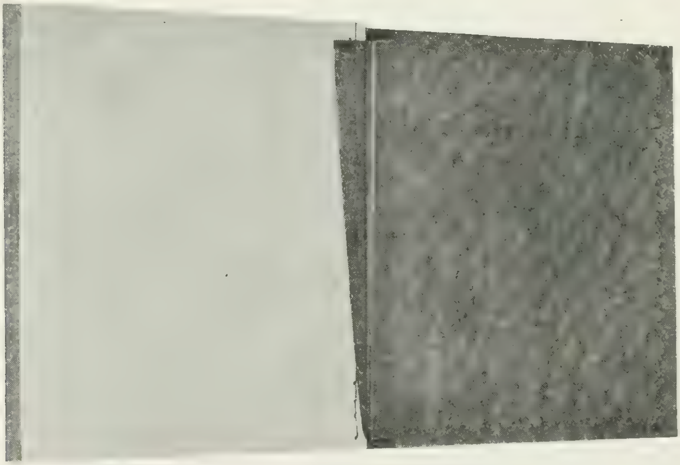


Fig. 11. History sheets stitched together, inserted between the gummed strips of history binder ready for pasting. (Back view.)

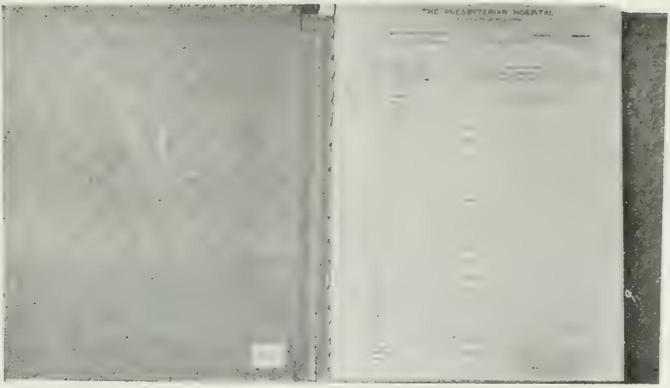


Fig. 12. Stitched history pasted into the history binder. (Front view.)

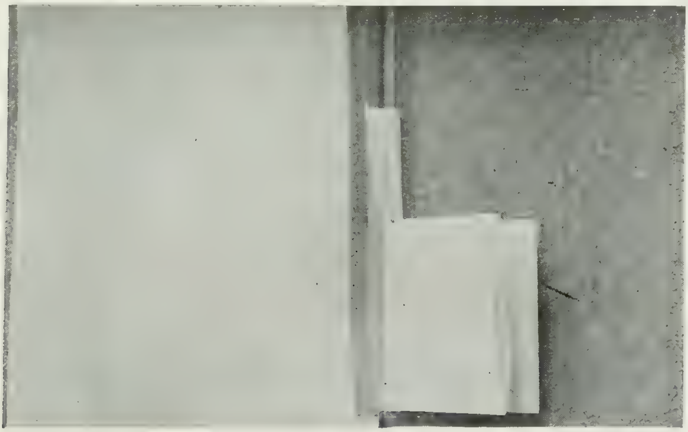


Fig. 13. History binder open, showing back of a history that has been already stitched and pasted into place. This also shows a piece of the gummed binding tape shown with its 4 leaves open, used when additional histories on readmission, or additional sheets used in the Out-patient Department and Follow-up work are to be added. A piece of folded paper has been gummed into the lower portion of this piece of binding tape and the tape has been also gummed and pasted to the history binder and to the previous history sheets. The upper part of the binding tape is shown open, indicating the manner in which additional sheets are attached to the binding tape and how the binding tape is attached to the history binder. It is thus seen that there are 4 leaves to the binding tape with 8 surfaces. 4 of these surfaces are gummed and 4 are without gum. It will thus be seen that if one or two sheets are to be added they need not be stitched, because there are 2 gummed surfaces to which they can be attached. If, however, there are more than 2 sheets to be added to the history they must be stitched together before insertion. This binding tape is made by Gaylord Bros., Syracuse, N. Y.

procedures on the discharge card are then filed in the *Diagnosis File,* Fig. 17a, b, c, and in the *Operation File*, Fig. 18. The Follow-Up date is placed on a follow-up card, which is then placed in the *Follow-Up File* under the date on which the patient is expected to return, Fig. 19.

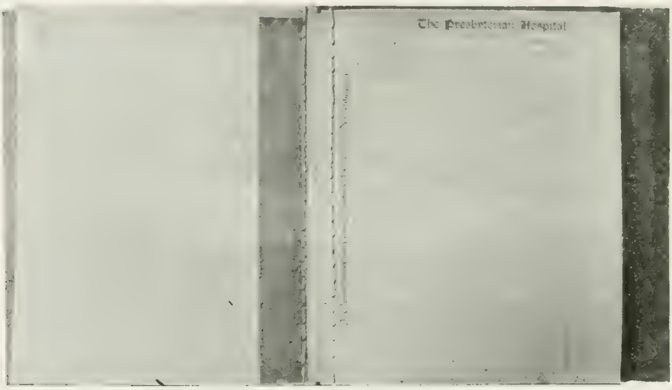


Fig. 14. Front view of additional history sheets stitched and added by means of the binding tape to a history binder that already includes one history.

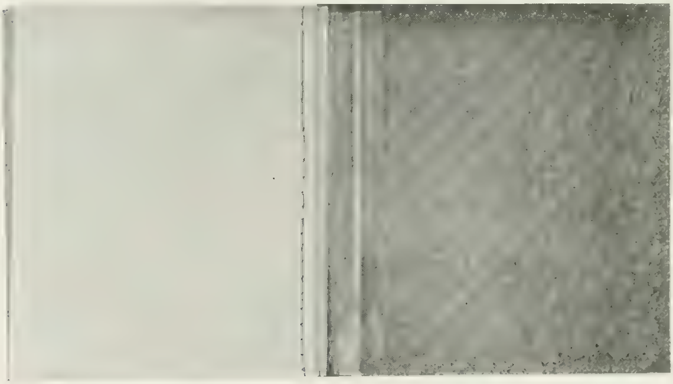


Fig. 15. Back view of additional history sheets stitched and added by means of the binding tape to a history binder that already includes one history.

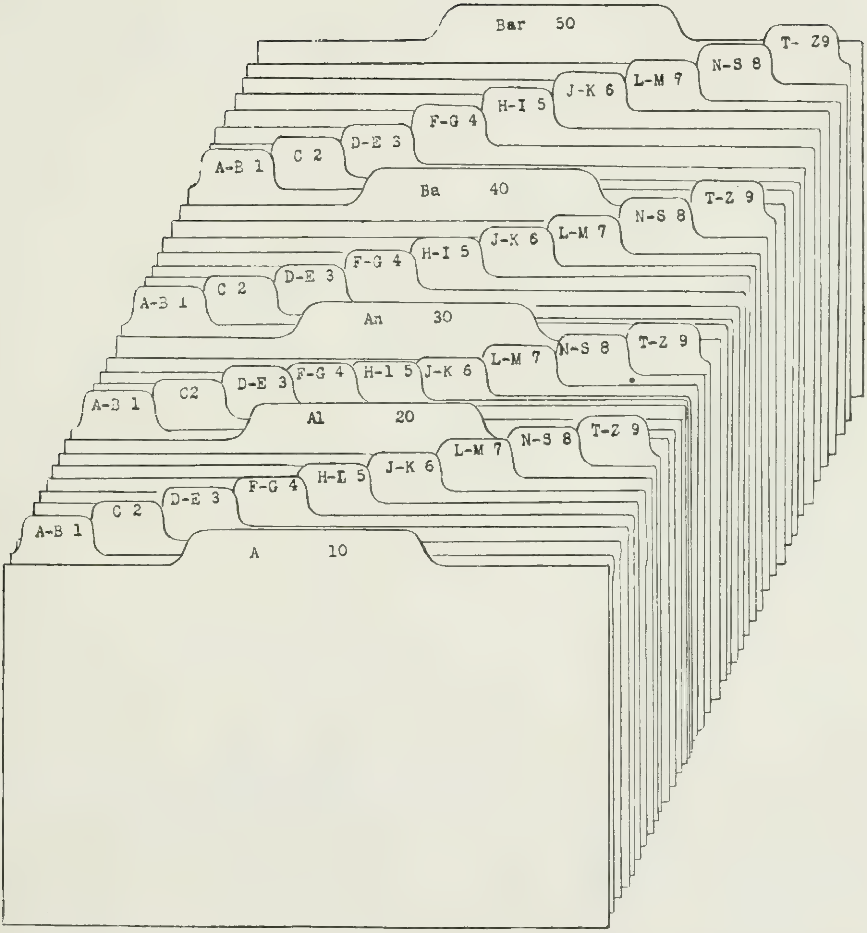

Bar 50
T- Z9
N-S 8
L-M 9
J-K 6
H-I 5
F-G 4
D-E 3
C 2
A-B 1
Ba 40
T-Z 9
N-S 8
L-M 7
J-K 6
H-I 5
F-G 4
D-E 3
C 2
A-B 1
An 30
N-S 8
T-Z 9
L-M 7
J-K 6
H-1 5
F-G 4
D-E 3
C2
A-B 1
Al 20
N-S 8
T-Z 9
L-M 7
J-K 6
H-I 5
F-G 4
D-E 3
C 2
A-B 1
A 10

Fig. 16. Alphabetical Name File. In this file the bedside card of a patient is inserted to be used as a name card on his discharge from the Hospital.

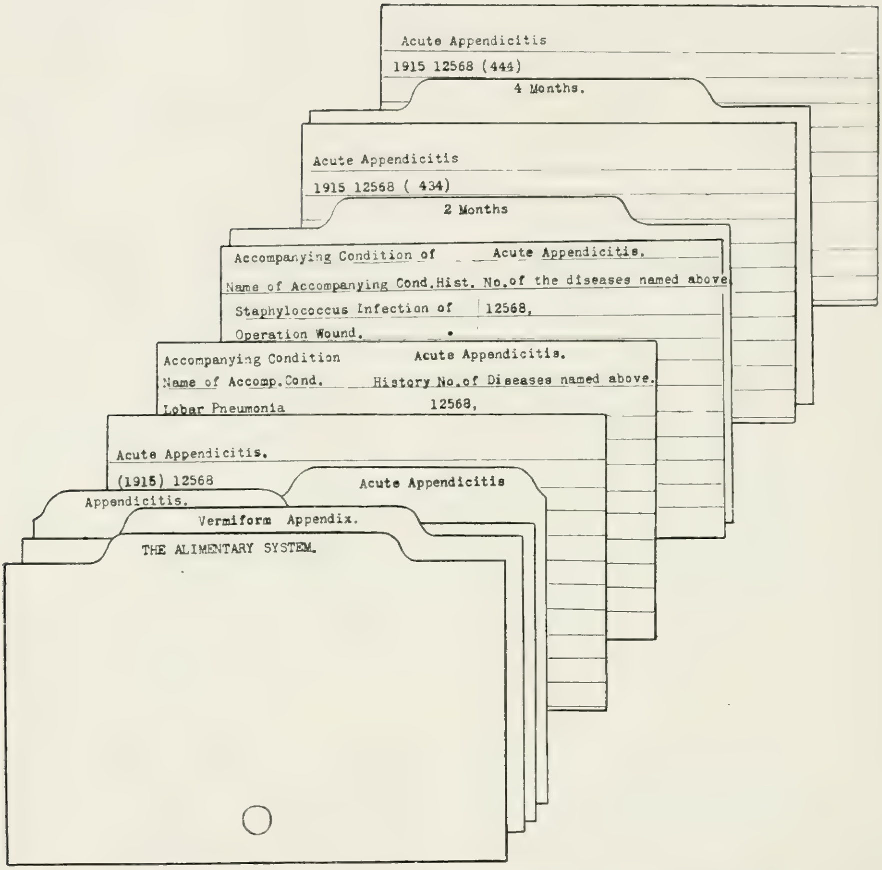

Acute Appendicitis
1915 12568 (444)
4 Months.
Acute Appendicitis
1915 12568 (434)
2 Months
Accompanying Condition of Acute Appendicitis.
Name of Accompanying Cond.Hist. No.of the diseases named above
Staphylococcus Infection of 12568,
Operation Wound.
Accompanying Condition Acute Appendicitis.
Name of Accomp.Cond. History No.of Diseases named above.
Lobar Pneumonia 12568,
Acute Appendicitis.
(1915) 12568
Acute Appendicitis
Appendicitis.
Vermiform Appendix.
THE ALIMENTARY SYSTEM.

Fig. 17a. Diagram of portion of Diagnosis File (acute appendicitis) showing guides used for filing cards of three diagnoses, acute appendicitis, lobar pneumonia, and staphylococcus infection of operation wound. The history numbers on the cards behind the two and four month guides indicate the cases whose follow-up interval results are known at those periods after operation or discharge. The numbers in brackets refer to these results classified as anatomic, symptomatic and economic. The degree of excellence is indicated by using the characters O ? 1 2 3 4,—4 being perfect and O being failure.

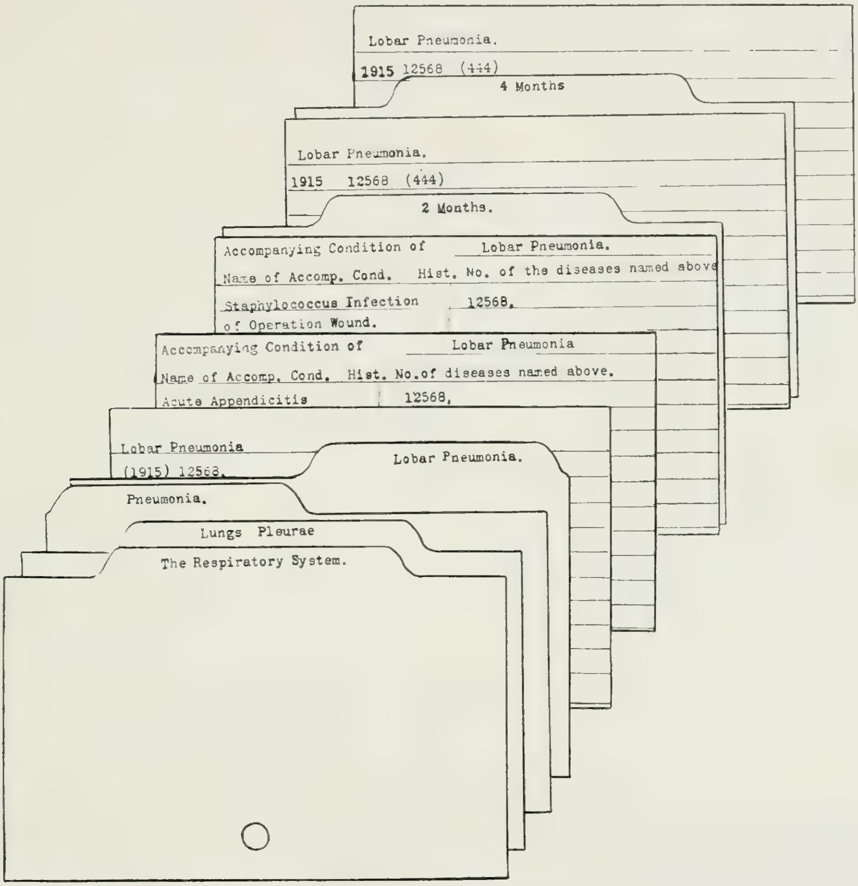

Lobar Pneumonia.
1915 12568 (444)
4 Months
Lobar Pneumonia.
1915 12568 (444)
2 Months.
Accompanying Condition of Lobar Pneumonia.
Name of Accomp. Cond. Hist. No. of the diseases named above
Staphylococcus Infection of Operation Wound. 12568.
Accompanying Condition of Lobar Pneumonia
Name of Accomp. Cond. Hist. No.of diseases named above.
Acute Appendicitis 12568,
Lobar Pneumonia
(1915) 12568.
Lobar Pneumonia.
Pneumonia.
Lungs Pleurae
The Respiratory System.

Fig. 175. Diagram of portion of Diagnosis File (lobar pneumonia) showing guides used for filing cards of three diagnoses, acute appendicitis, lobar pneumonia, and staphylococcus infection of operation wound. The history numbers on the cards behind the two and four month guides indicate the cases whose follow-up interval results are known at those periods after operation or discharge. The numbers in brackets refer to these results classified as anatomic, symptomatic and economic. The degree of excellence is indicated by using the characters O ? 1 2 3 4,—4 being perfect and O being failure.

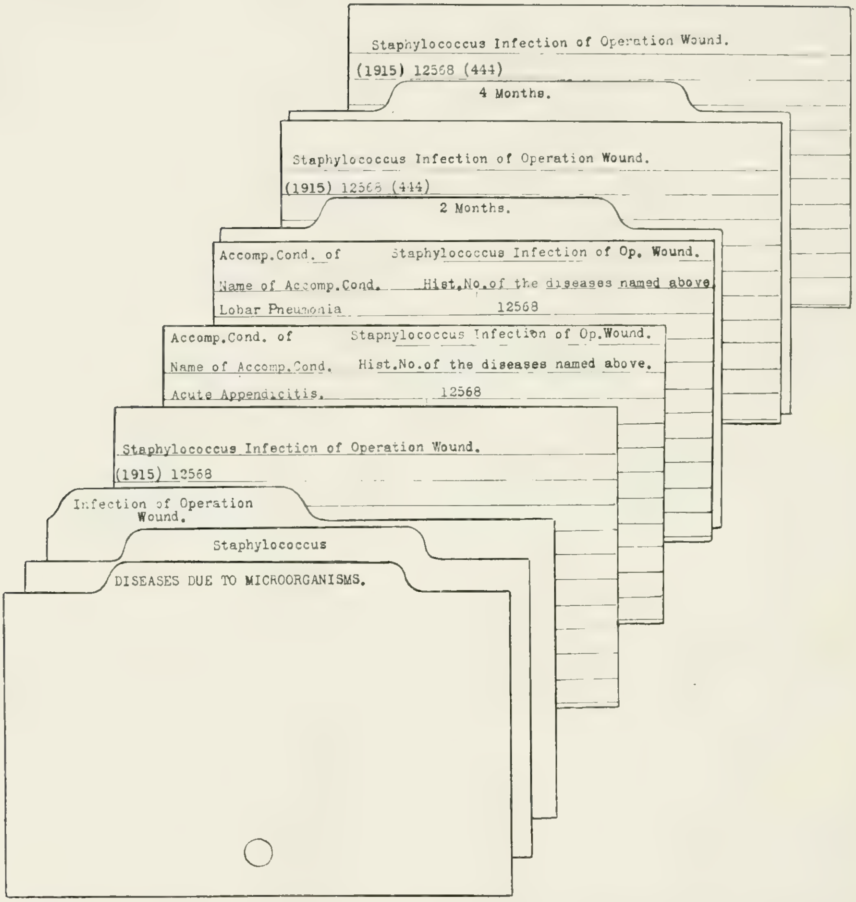

Staphylococcus Infection of Operation Wound.
(1915) 12568 (444)
4 Months.
Staphylococcus Infection of Operation Wound.
(1915) 12568 (444)
2 Months.
Accomp.Cond. of Staphylococcus Infection of Op. Wound.
Name of Accomp.Cond. Hist.No.of the diseases named above.
Lobar Pneumonia 12568
Accomp.Cond. of Staphylococcus Infection of Op.Wound.
Name of Accomp.Cond. Hist.No.of the diseases named above.
Acute Appendicitis. 12568
Staphylococcus Infection of Operation Wound.
(1915) 12568
Infection of Operation Wound.
Staphylococcus
DISEASES DUE TO MICROORGANISMS.

Fig. 17c. Diagram of portion of Diagnosis File (staphylococcus infection of operation wound) showing guides used for filing cards of three diagnoses, acute appendicitis, lobar pneumonia, and staphylococcus infection of operation wound. The history numbers on the cards behind the two and four month guides indicate the cases whose follow-up interval results are known at those periods after operation or discharge. The numbers in brackets refer to these results classified as anatomic, symptomatic and economic. The degree of excellence is indicated by using the characters O ? 1 2 3 4,—4 being perfect and O being failure.

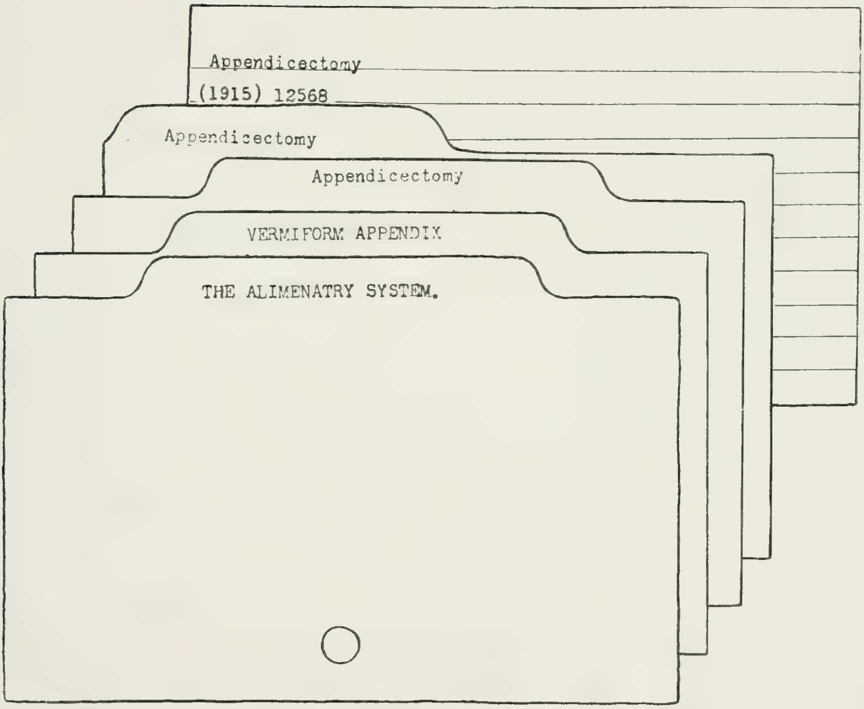

Appendicectomy
(1915) 12568
Appendicectomy
Appendicectomy
VERMIFORM APPENDIX
THE ALIMENATRY SYSTEM.

Fig. 18. Operation File indicating Appendicectomy.

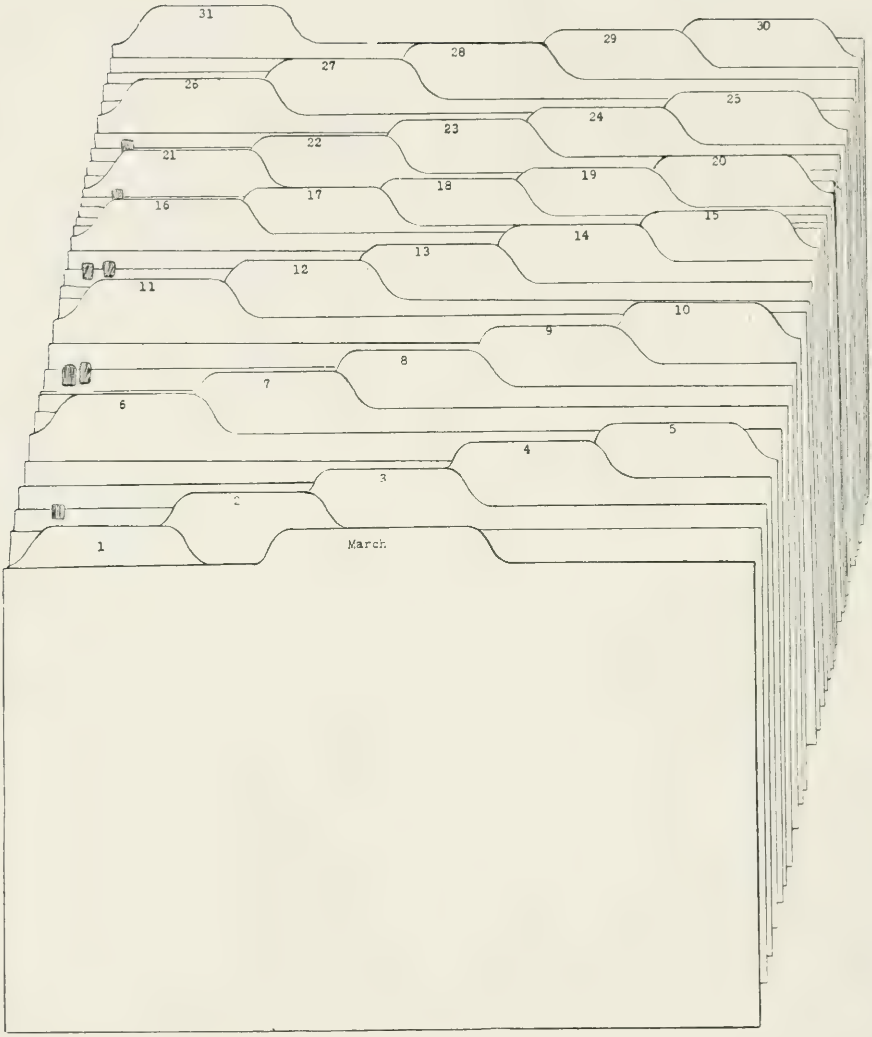

31
30
29
28
27
26
25
24
23
22
21
20
19
18
17
16
15
14
13
12
11
10
9
8
7
6
5
4
3
2
1
March

Fig. 19. Follow-Up Card File indicating the date the patient is expected to return or the date on which letters have been written to patients, or by flag signal clips. Those cases to be visited, green for city cases and red for out of town cases.

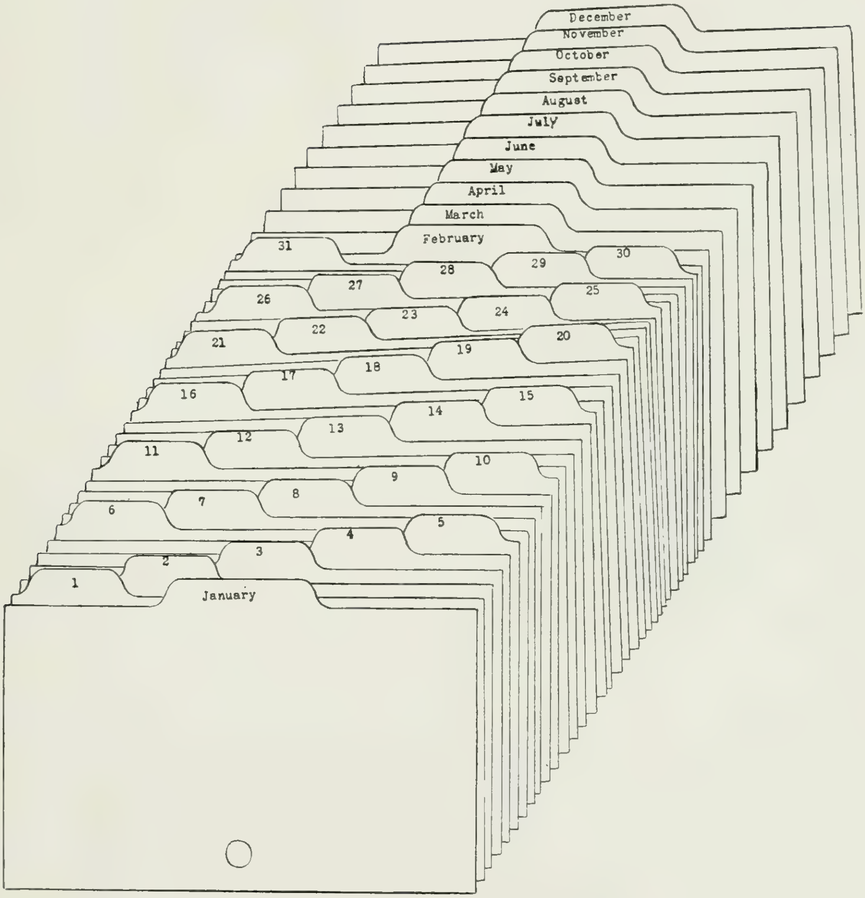

December
November
October
September
August
July
June
May
April
March
February
January
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31

Fig. 20. Chronological calendar file guide cards behind which the history requisition cards are inserted to indicate the date on which histories removed from the record room are to be returned.

Rules for the Follow-Up System.

1. Every case discharged from the hospital is to be followed up. The only exceptions are:

   a. Private patients.

   b. Nurses and doctors connected with the hospital.

2. There shall be a committee on Follow-Up composed of one medical and one surgical representative duly appointed by the Medical Board. This committee shall have charge of and be responsible for all Follow-Up work.

3. *Distinction between Follow-Up Cases and Treatment Cases:* Every case discharged from the Hospital is to have all subsequent notes made in his unit History, no matter in what part of the Hospital he be seen or treated. On discharge he is given a date for return, which may be from one day to several months in advance of his discharge date.

This date is his *first Follow-Up date* and he is to report at the Follow-Up Clinic at this time. Now one of four things may happen, viz:—

a. The patient is ill and is readmitted to the Hospital. This automatically closes the case in the Follow-Up, and on his redischarge he will again be admitted to the Follow-Up, being given a new date.

b. The patient is perfectly well, needs no further treatment and does not require further observation. The case is closed.

c. The patient needs no regular treatment, but should be observed at proper intervals. He is therefore given a Follow-Up date so far in the future as is deemed proper.

d. The patient needs treatment regularly. Every case under treatment must also be under observation at proper intervals for re-examination; in other words he must be followed up in addition to his return for treatment. In this case the proper Follow-up notes are made and he is given a Follow-Up date at a proper future time. This date is entered in his history and on his Follow-Up card, and it is explained to the patient that it is essential for him to return at that time whether he be under treatment when the time comes or not. His return is for the purpose of having a general review of his case to check up results and to furnish a guide for his future care.

The patient is then told that in addition to this Follow-Up return, which will generally be several months in the future, he is to return at such and such times for treatment. These dates are not entered on Follow-Up card. They are not entered on his history until he returns for treatment. It remains with him to return or not as he sees fit, and no attempt is made to see that he returns on these dates. His follow-up date is, however, kept track of in the Record Room, and if he does not return he is followed up in the usual way.

It is the duty of the Follow-Up worker to see that the patient understands what he is supposed to do.

It is the duty of the Physician or Surgeon who looks after the Treatment Cases to make notes of the treatment carried out at each visit.

Whenever a case comes to the Follow-Up clinic stamped for Follow-Up examination it shall be the duty of the examining Physician or Surgeon on duty to write a summary of the case to that date with so much of a complete re-examination as may be necessary.

4. The nurse in charge of each ward shall keep on her desk a list of all patients in that ward who are expected to leave the Hospital within a few days.

5. The Follow-Up worker shall visit daily the wards assigned to her. She shall interview each patient before his discharge, explaining the reason for asking him to return and giving him such printed instructions as are in use. She shall make out a Follow-Up Card for each such patient, filling in the name and unit history number but leaving blank the date of return. She shall leave this Follow-Up Card with the patient's history.

6. The House Officer in charge of each ward shall tell each patient on discharge the date on which he is to return and shall enter this date on the Follow-Up Card and on the Discharge Card.

7. In giving a return date the House Officer shall:—

   a. Make the date correspond with the time that the Attending Physician or Surgeon in charge of the case is on duty for Follow-Up work, or if the patient is referred to some special class work in the O. P. D., he shall make the date correspond with the time when that class work is carried on. It shall be the duty of each House Officer to provide himself with a schedule of class work in the O. P. D. and with a schedule of the Attending Staff assignments to Follow-Up work.

   b. Avoid Sundays and holidays, also Saturdays in June, July, August and September.

8. In case the patient is a nurse or doctor connected with the Hospital or a private patient, the House Officer shall so indicate on the discharge card and in his final note, adding, "This case not to be followed."

9. The House Officer in his final note on each patient shall indicate any points of importance in the future observations, man-

agement and treatment of the case as outlined by the Attending Physician or Surgeon in charge.

10. The House Officer shall see that each patient on discharge is properly instructed as to how to care for himself and that in case medicine is indicated has been given a supply sufficient for his needs.

11. It shall be the duty of the nurse in charge of each ward to see that no patient belonging to the Follow-Up is discharged without taking with him his Follow-Up Card properly filled out.

12. In case any patient who should be included in the Follow-Up reaches the Discharging Office without a date for his return, the clerk on duty shall make out a proper Follow-Up Card, giving a date eight weeks from the date of discharge, avoiding Sundays, holidays, also Saturdays in June, July, August and September.

13. On the discharge of a patient, the Record Clerk shall copy on the proper Calendar Card the name, address and history number of the patient, and on the reverse side of the card shall then indicate the date of return by a mark / in the proper square. This card shall then be filed under the date of return in the Calendar file.

14. On the discharge of a patient, the Record Clerk shall stamp on a blank sheet at the back of the History the "Follow-Up Stamp" indicated in Section No. 18.

15. On the discharge of a patient who has an O. P. D. history, the Record Clerk shall bind this O. P. D. history with the Ward history. In its place she shall send to the O. P. D. the proper salmon-colored sheet and name card suitably made out.

16. The Record Clerk shall deliver to the messenger from the O. P. D. such histories as are requested for the Follow-Up clinic. The messenger shall sign a receipt for these histories which shall be kept by the Record Clerk until their return.

17. The Record Clerk shall see that each history is properly dated and stamped "Medical or Surgical" on the Follow-Up Sheet before delivery to the messenger.

18. The Record Clerk shall also determine from the Calendar File and from the history whether the case is returning for treatment or for Follow-Up. If for the latter she shall stamp the history

"Follow-Up Day

A summary and re-examination of this case is to be made today. If the case is not closed, be sure that a proper future Follow-Up date is given."

This may be done on the day preceding the date of return. This history is then marked for a Follow-Up examination on the patient's return, no matter when this may be.

19. When the histories have been returned to the Record Room at the close of the Follow-Up clinic, the Record Clerk shall make a mark X in the proper square of the Calendar Card of those cases who have returned for follow up, indicating that the patient returned on that date. If the case is closed the card shall be put aside and kept until the end of the Hospital year. If a new Follow-Up date has been given this date shall be indicated by a mark / in the proper square of the Calendar Card. The card shall then be filed under this date in the Calendar File.

Cases which have returned for treatment shall not be entered on the Calendar File.

20. The Record Clerk shall see that all histories used in the Follow-Up clinic are returned to their proper places in the files.

21. If the patient fails to return on his Follow-Up date his Calendar Card shall be advanced one week, a mark / being made in the proper square to indicate this. If he fails to appear on or before this date, the Record Clerk shall send a letter asking him to return one week from that day and shall advance his Calendar Card one week, a letter L being made in the proper square. If he fails

to appear on or before the time indicated in the letter the procedure shall be:—

a. If he lives in Manhattan or the Bronx, the case is given to the Follow-Up worker for search, the Calendar Card being advanced two weeks, a letter S being made in the proper square. If the patient returns before the expiration of this time the procedure shall be the same as with any other case. If he fails to return on or before the time set, the Follow-Up worker shall write her report in the history and the disposition of the case shall be left to the Committee on Follow-Up.

b. If he does not live in Manhattan or the Bronx, the Record Clerk shall send a letter requesting him to fill in a blank form enclosed and shall enclose a stamped and addressed envelope. The Calendar Card shall be advanced two weeks, a letter L being made in the proper square. If no reply is received on or before the date set the Record Clerk shall note this fact in the history and the disposition of the case shall be left to the Committee on Follow-Up.

22. It shall be the duty of the Record Clerk to keep such statistics of the Follow-Up work as may be indicated by the Committee on Follow-Up.

23. A case is considered closed under the following conditions:—

a. When the patient is readmitted to the Hospital.

b. When the patient dies.

c. When he is lost and the system of Follow-Up fails to find him in four weeks.

d. When in the opinion of the Examining Physician or Surgeon all further examination would be unprofitable.

e. When on consideration of particular circumstances the Committee on Follow-Up closes the case.

24. When a case comes to the Hospital for examination at a time other than that of the Follow-Up clinic, the Record Clerk shall send to the Examining Physician or Surgeon by the Record Room messenger the history asked for, properly stamped and dated, inserting a Filler-In Card in place of the history. The messenger shall get a receipt for this history signed by the Examining Physician or Surgeon. The Examining Physician or Surgeon must return the history to the Record Room by the messenger as soon as he has finished with the case, except that in the Accident Ward the history shall be kept by the nurse in charge until called for by the messenger.

Any Surgeon or Physician properly qualified by the Hospital to examine any such returning patient shall be entitled to sign for said patient's history for the purpose of recording his findings on that patient.

25. When a patient returning for Follow-Up or for treatment is found to be suffering from some new condition, it shall be the duty of the Examining Physician or Surgeon to add this diagnosis at the end of his Follow-Up note in the terms of the Classification used in the Hospital. Such additional diagnosis shall be filed by the Record Clerk in the regular files and shall be entered on the Diagnosis Sheet of the Unit History. To the right shall be written Follow-Up and date, to the left, the Diagnosis. If the diagnosis does not correspond with that in the classification it shall be corrected by the Committee on Follow-Up.

26. It shall be the duty of the Record Clerk to keep track of all cases readmitted to the Hospital from Follow-Up clinics.

When a case is readmitted to the hospital it shall be the duty of the Follow-Up worker to see that this fact is written in the Follow-Up note. The Record Clerk shall mark the patient's Calendar Card with an X in the proper square one week ahead of the date of readmission. If the patient has entered the Hospital on or before this date the case is closed. If he has not entered the Hospital, the Record Clerk shall send him a letter asking him to return and she shall advance his Calendar Card one week in the Calendar File, placing a letter L in the proper square of his Calendar Card. If the patient does not return on or before this date, the case shall be turned over to the Follow-Up worker for search and the Calendar Card marked with an S in the proper square shall be advanced two weeks. If the case has not returned at the end of this time the Follow-Up worker shall write her report in the history and the disposition of the case shall be left to the Committee on Follow-Up.

27. Every Unit history sent to the O. P. D. must first go to the Follow-Up clinic. The Follow-Up worker shall distribute the cases as is indicated. All cases about which there is any doubt shall be referred to the Examining Physician or Surgeon.

28. It shall be the duty of the O. P. D. Clerk to look up in the file the name of each patient applying for treatment in the O. P. D. If it be found that any such patient has a Unit history he shall be sent to the Follow-Up clinic and his Unit history shall be obtained in the usual manner.

29. The O. P. D. Clerk shall send a messenger to the Record Room for the histories of all patients who return for the Follow-Up clinic. She shall send for the first histories as soon as the first patients present themselves and shall continue to send for the Follow-Up histories as often as is necessary to expedite the work of the Follow-Up clinic.

30. The messenger shall deliver all histories to the Follow-Up worker.

31. The O. P. D. Clerk shall give to each Follow-Up patient in the order of his appearance a Follow-Up ticket upon which is a number indicating his turn for examination.

32. The Follow-Up patients shall be examined in their turns by the Physician or Surgeon duly assigned to this work.

33. The duties of such Examining Physicians or Surgeons shall be:—

a. To write a clinical note comprehensive enough to cover all details of the patient's present condition.

b. To give a subsequent Follow-Up date and to return to the patient his Follow-Up Card correspondingly dated.

c. To order and write down such treatment as is indicated.

d. To close the case if indicated.

e. To make a special point of distinguishing between Follow-Up and treatment cases and treat them accordingly.

f. To readmit patients to Hospital if necessary.

g. To add any new diagnosis to his Follow-Up note.

34. The Follow-Up worker shall be present in the O. P. D. to supervise the work of the Follow-Up clinic. She is responsible for the proper carrying out of all technical details. She shall see that the patients are cared for in their proper turns, that the notes are signed by the Examining Physician or Surgeon, that the Follow-Up date is entered in the history, that the patient receives his Follow-Up Card correspondingly dated, that he understands just what he is to do in regard to Follow-Up treatment, that in case the patient is readmitted the fact is noted, and shall assist in the work in any way indicated by the Examining Physician or Surgeon. It is most important that she look over each history as it is finished to

see that no technical detail is omitted. She shall be directly responsible for the omission of any such detail.

35. The Follow-Up worker shall be responsible for the return to the Record Room of all histories used in the Follow-Up clinic.

36. All Follow-Up or treatment cases which appear when the Follow-Up clinic is closed shall be referred to the Accident Ward.

The bound history is then placed on the shelf in the wire-caged history stack in numerical order. Any additional notes to be made in the Record Room on the history are typewritten on the sheets of the bound volume by means of the Elliot-Fisher Company's typewriter constructed for that purpose.

Two features of the Record Room work, though only just in their incipiency, it may be well to mention here, namely, the Filler-in Card System and the Wound-Healing Diagnosis File. The Filler-in Card System†, as explained in the rules, is a modification of the system in use at the Mayo Clinic, whence the idea was obtained. The Wound-Healing and Discharge Result Card File is the result of a study of various methods by which the results of the healing of wounds can be grouped for analysis in combination with the critical judgment of the case as a whole on discharge, using for the latter the unique and comprehensive grouping, formulated by Dr. Codman of Boston as a basis. The explanation of this file is on page 44.

The Terminology for the Classification of Diseases used at the Presbyterian Hospital was written by Dr. Walton Martin and Dr. Adrian V. S. Lambert. The List of Operations appended to it was written by Dr. William Darrach. Since this edition came out there have been several changes and many additions, so that a new edition is now being prepared.* It was hoped, in writing this book, to overcome some of the disadvantages that obtained in other classifications that were available, and provide a Terminology not only comprehensive, but elastic and capable of addition and expansion according to needs as they might arise. It has been in use and thoroughly tested now for some years and one has no hesitation in stating that it has vindicated its usefulness many times over in grouping cases according to disease and associated conditions for subsequent use and study.

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† See note p. 30.

* Published by P. B. Hoeber, 69 East 59th Street, New York City.

The elaboration of the details of binding the Unit Histories and inserting additional histories and other sheets in the same binder was done by Dr. Lambert.

The planning out and instituting of the history system in the Out-Patient Department so as to include the details of the history system of the Hospital, together with the development of ways in which the Out-Patient histories are now used in correlation with the In-Patient histories, a very intricate problem and requiring much experiment and study, was done by Dr. Albert R. Lamb. Without these factors the Unit History System would have been impossible.

H. Auchincloss, M. D.

FOLLOW-UP SYSTEM.

The following description is that of the Follow-Up System used on the surgical side of the hospital. It varies in unimportant details from that used for following medical cases, because of the necessity of determining end results of operative procedures.

The history of the follow-up work is like that of all modern hospital activities. It represents the change from the old charity hospital in which prominent surgeons of the community offered their services for the care of the sick and consequently were not held accountable for much of the work performed, to the modern hospital which is run as a Public Service Institution with definite responsibilities which are in turn handed along to the members of the Attending Staff. The old idea of a hospital was of a building to which the desperately sick or dying were taken, for a more or less prolonged stay, and were taken home as soon as possible for subsequent treatment and observation. The newer idea in medicine appreciates the fact that in order to obtain proper care, the patients must not only have proper pre-operative diagnoses made, but after operation or other treatment must be consistently followed both for their own sake and for the sake of others who may be afflicted with ailments similar to theirs; that is, they must be followed so as to determine accurately the end result of the particular treatment which was carried out.

The former purpose of the follow-up, until recent years, has been almost neglected; the latter need has been to a slight extent filled by interested surgeons who, usually for purposes of publication, would gather together a group of cases of some particular nature, or upon whom some favorite method of treatment had been tried. The idea that the hospital as an institution should bring back all cases for observation or treatment has steadily grown in various parts of the country because of the evident need of post-hospital care and need for accurate data as to results of treatment.

The present system of following cases was inaugurated in August, 1914, at first on the surgical side and later in the entire in-patient part of the hospital. When first instituted the hospital records were bound serially in volumes of 100 each, making it impossible to carry them around, so that abstracts were used to communicate the contained information to the doctor who examined the returned cases. With the advent of the unit history system all of this has been eliminated, so that the examining physician now has at his hand all of the information available about his patient, and writes his own notes in the same record.

The Follow-Up System, as distinct from the End Result System, aims to have the patient return to the hospital and to provide means of having proper notes made upon the patient's history. We have striven to make it as simple as possible. The patient has the purpose of the return examination explained to him, and is made to understand that his Follow-Up date is an important event, which is only indirectly related to other appointments made for treatment, dressings, etc., a privilege and at the same time a duty. A pamphlet "A" (page 83) is given him, outlining the general principles of post hospital care. In this the benefits of "follow-up" are explained. Secondly he is given a card "B" (page 88) asking him to return on a particular date. If he does not return within a certain space of time he is sent a letter "C" (page 89) and if he again fails to appear he is sought out by a social worker assigned to this type of work. She either persuades him to return, or if unable to do this obtains as valuable information as possible from him or about him, all of which is incorporated in his own hospital unit record. This process can be repeated an indefinite number of times over an indefinite period.

When the patient lives out of town the visiting nurse does not go to see him. Instead, a second letter "D" (page 89) is written asking him to come back if possible and if not to give information about himself on a sheet "E" (page 90) which is enclosed in the letter. If nothing further is heard from the patient after two weeks and if his family physician is known, a letter "F" (page 90) is written to the doctor requesting him for information about the patient if the case is on requiring persistent search. Occasionally it is found that the patient is in another hospital, and if this is so a letter "G" (page 90) is sent to the Superintendent requesting information concerning this patient.

A few days before the patient is to be discharged the visiting nurse assigned to follow-up work visits him and goes over, in detail, the reasons for his subsequent examination. He is also given the pamphlet (A) for perusal before he leaves. When discharging him from the hospital the House Surgeon writes on the bedside card of the patient the date of his first follow-up examination and also writes this same date on the appointment card (B). The bedside card and the unit history reach the Record Room, after the patient's discharge. The Record Clerk observes the follow-up date on the bedside card and makes on the back of the 5 by 8 calendar card (H) in the proper square a diagonal mark, and drops this card under proper date in the calendar file (I). When the appointed date arrives and the patient fails to appear, the diagonal mark is advanced one week and the card dropped under proper date. If he has not returned at the end of the week he is sent a letter (C) and in the corresponding square of the calendar card there is written the letter "L" in the upper left hand corner, and a diagonal mark is made one week in advance and the card is dropped in the file under appropriate date. He is allowed another week in which to appear; if he has not appeared by that time his name is given to the follow-up nurse and the letter "N" is marked in the upper left hand corner and a diagonal mark is made two weeks in advance and the card is dropped in the file under appropriate date. Two weeks are allowed for the nurse to bring him back to the hospital. If he has not appeared by that time his record is given to the follow-up committee to determine whether the case should be further followed or not. Should he appear in response to any one of these three methods, the visit is indicated by crossing the diagonal in the corresponding square making a complete X.

When any patient coming under the unit history system appears for examination in the Out-Patient Department, the O. P. D. Clerk sends by a messenger a request to the Record Room for the patient's unit history and sends the patient to the room set aside for the examination of the follow-up cases.

The Record Clerk stamps the following on the top of the first extra, or "follow-up" sheet which follows the last sheet of the "in-patient" record:

Name.................. *Operation* .... *Date of Operation*
..............*Attending Surgeon*............. *Date of Discharge*

and if this be the actual follow-up date or one closely approximating it, he also stamps the following: (see Fig. III, Page ..)

Diagnosis ....

(Add new diagnosis after old diagnosis)

Interval After Operation......*Months*..............*Return Date*
Results A. S. E..................................*Examiner*

The messenger carries the record to the follow-up nurse who determines whether the case has returned for some form of treatment only, or for follow-up. If the former, she sends him to the proper room. If the latter, she or her assistant takes the temperature and pulse and weighs the patient and records the data. The doctor conducts his examination, makes his notes, indicates the results of the various operations and either closes the case or gives the patient a new follow-up date, which follow-up date is a notice to the Record Clerk to continue the case by marking in the appropriate square on the calendar card the diagonal line mentioned above and dropping the card in the calendar file under the proper date. With space for three years provided on a single card, this card usually suffices for all examinations.

The first follow-up date, unless otherwise specifically indicated by the attending surgeon or operator, is set at two months after discharge. This date is carefully selected to coincide with the day on which the operating surgeon in charge of that case is on duty in the "follow-up clinic." Each surgeon has a particular day in the week for seeing follow-up cases and is on duty on that day in the Out-Patient Department. Care is taken to impress upon the patient that he is going to return to see the particular person who cared for him in the ward. Subsequent appointments are left to the discretion of the examining ("follow-up") doctor who is guided by the note made by the operating surgeon if by error he be not the same person. The hours for the follow-up examinations are from 9 A. M. to 10.30 A. M. when the doors are closed. As a matter of fact, however, cases are admitted as long as the follow-up doctor is in attendance, and thereafter are sent to the accident ward where they are examined by the interne on duty.

The results of these follow-up records for the first year were tabulated and showed that of cases leaving the hospital 44.7% returned in response to first request, 23.1% more in response to the letter and 9.4% more as a result of the follow-up nurses' efforts, making a total of 77.2% who actually returned for examination. Further information of a medical nature either by letter from patient or by the follow-up nurse was obtained from 3.3%. General information, such as general health, earning capacity, incomplete medical data, etc., were obtained by the follow-up nurse in 11.1% more cases, so that 91.6% of the cases discharged from the hospital with the exception mentioned were in some degree successfully followed.

The success or failure of such a system will depend upon the proper conduct of practically all departments of the hospital which come in contact with the patients. All individuals coming in contact with the patients must express sincerity and personal interest in the patient rather than treat him as a cog in a wheel or, by the surgical staff, as just another case. His confidence in the institution and in the surgeons must be gained. These individuals must exhibit definiteness in the giving of directions and in explaining the purpose of the treatment and of the subsequent visits. There must be intelligence in the handling of the patients, and sad as it may seem the above results are obtained by appealing mostly to their selfish motives. The clerks at the entrance must have some knowledge of the working of the system in order that they may clearly direct patients and answer questions when difficulties arise. The admitting clerk and those having to do with the financial arrangements exert a tremendous force in determining the patient's attitude toward the hospital. He is in the difficult position of having to decide off-hand as to the probable financial position of the individual and can be easily deceived by a slothful or deliberately deceiving individual or on the other hand by the cleanly, neat appearance of a poverty-stricken individual who wishes to maintain a certain amount of personal pride.

The nurse or social worker to whom is assigned the duty of following up the cases and persuading them to return must possess definite qualifications which are difficult to describe. About 50% of the cases come back merely on request, the remaining 40% come back largely because of the efforts of this nurse. The percentage of these returns have shown a marked variation in the different periods when different individuals have undertaken the work. She of all others must gain the confidence of the patients, and where she has the opportunity she must make the follow-up visit more or less of a personal nature or if necessary give them the air of a personal favor to her. She must excite the patient's interest in the fact that there is such a system, must teach him its significance; that it is for clinical observation and has nothing to do with the executive part of the hospital. As far as we know no patients have ever been asked for unpaid bills when coming back in response to one of these requests, but such will be possible unless carefully avoided. Some patients need instructions in their duties or obligations to the hospital. They do not realize how much effort has been expended on them and consider that the payment of a dollar and a half a day is a fair bargain and proper payment for services rendered. Such individuals in a great many cases, when they are properly instructed, show the greatest willingness to come back. The defective is of course the most difficult. Definite appointments and the aid of friends and family probably do more to bring these cases back than any other factors.

The individuals who are unwilling to come back with no good reason, demand methods as appear best at the moment. Appeal to loyalty and selfishness, admonition, scolding, etc., all have to be called into play, and the success or failure attending their application depends on the nurse.

When the nurse goes to the house and finds that the patient has moved and has left no address, various devices are employed for further search. These difficulties are especially numerous in New York because of the mobile nature of the less fortunate population and would not be so important in smaller or less transient groups. If she cannot find the address from neighbors, she applies to the janitor; he may know and if not may know the moving van or express company who transferred their belongings. If the patient is a child, often consultation with the local teacher will show to what school the child has been transferred. Often the church will have a record. The local policeman will often know the address of a patient or from the circumstances under which they left may direct to the new address. Reports of deaths in the Board of Health and of marriage licenses occasionally have to be sought in order to clear a given case up. There are many patients who are willing to come back on week days at night but cannot come back on Sundays or on week days during the day time. At present we have to be content with the nurse's clinical report on such cases.

One of the most important impressions upon the patient is that made by the attending surgeon when he asks the patient to return for follow-up. This simple word or two by backing up the more detailed and strenuous efforts of nurses, follow-up workers and staff may save hours of time and a considerable amount of money. When the individual comes back for examination the examining doctor should be prompt and should be accurate and definite in his instructions. If a patient returns promptly for his appointment and is compelled to wait two or three hours for the examining doctor who hurriedly slaps him on the back and tells him how well he looks although his original complaint may still be unrelieved, he will be brought back for a subsequent visit only with very great difficulty.

The house staff in addition to the exhibition of the general qualities above mentioned, are responsible for the dates on which the patient is to return. Occasionally the patient's card will have on it a date different from that in the hands of the Record Room, either of which may be incorrect. This produces a bad effect upon the patient and requires an unnecessary expenditure of time.

However, no matter what the difficulties may be in following cases in the large metropolitan centers, we feel that success or failure depends on the members of the institution as a whole and that if there is the proper desire and a reasonably conscientious effort, at least 90% of all cases can be definitely followed.

What cases shall be followed? It is the fixed opinion of practically all of those working in the follow-up, often from sad disappointment, that no one is able to estimate the degree of importance which attaches to any particular case while that case still remains in the hospital. The seemingly most trivial cases often turn out the most serious. Therefore from the medical standpoint no exceptions are made. For various reasons, private cases, nurses in training and cases specifically excepted by the attending surgeon are not at present included.

The follow-up system has been active for three and one-half years. The question arises, are changes in or addition to our efforts desirable? Is the systematic following of all cases worth while? The first improvement instituted is to provide a more definite mechanism for obtaining addresses of friends, employers, or other agencies through which the patient may be reached. This address is most important in following difficult cases. The addresses given on admission are often inexact if not deliberately false. After the patient realizes that he is amongst friends he will often give correct data; for that reason it is proposed to have the interne in charge of a ward at the time of writing the summary write this address in a special place in the history.

Another addition to the work is to provide a mechanism for obtaining from the attending surgeons follow-up notes on private or other cases which they have had exempted from the routine follow-up. All agree that all cases cared for in the hospital should have proper records and that while it is not desirable to have some patients come back to the regular follow-up clinic, nevertheless the results should appear in the record. Another improvement should bring the hospital in more intimate association with doctors who are accustomed to refer patients for operation or observation. This can be done by notifying such a doctor of the operation to be performed on his patient and also of the discharge of his patient from the hospital together with what information should be conveyed from the operating surgeon to the doctor who will conduct the post hospital care, letting him know that a follow-up examination can be of the nature of a consultation if he so desires.

In answer to the question as to the desirability of continuing the system the opinion is almost unanimously favorable. The end results are now at least recorded, and sufficiently clear to remove them from the realm of "General Impression," while the large number of cases which are given unexpected treatment and advice is sufficient proof of the benefits to the patient.

Concerning the character of the information which should be put in a follow-up note there is room for a great diversity of opinion. The following should at least be included: A careful list of the symptoms which the patient complained of on admission to the Hospital should be reviewed at the time of discharge and at each subsequent examination. A thorough physical examination of the part of the body related to his surgical condition should be made and preferably a sufficient general examination as will discover any post hospital complication (such as pulmonary tuberculosis). The end results should be carefully recorded as far as possible for each condition. Lastly, the disposition of the case should be indicated as well as any advice or therapeutic measures. To further aid the examining surgeon a "Summary Sheet" "J" (page 93) has been prepared in order to bring out the most important features of any case.

In conclusion it may be said that by employing the unit history system it is possible to keep an almost complete life history of an individual in one cover. The records are the property of the hospital and are available for proper use. By having cases reviewed by the very men who operated upon them notes are made with more definite purpose than if made by uninterested persons, so that to the patient, the family physician, to scientific investigators and to the hospital authorities, should they require a standard of efficiency, a continuous record is available such as can be obtained in no other way.

The system has now become a fixture. The members of the various departments of the hospital, in general, show an intelligent and appreciative interest. Especial thanks are due to the volunteer workers who by diligent attendance make the writing of notes and the end results much more thorough than they otherwise could be in these times.

JAMES A. CORSCADEN, M. D.

"A"

A pamphlet of general advice and explanation.

THE PRESBYTERIAN HOSPITAL

in the

City of New York

41 East 70th Street

ADVICE AND INFORMATION FOR

....

Please read the following pages carefully and bring this pamphlet with you when you return for your visit on................

....

If you have a private physician report to him to let him see the result of your treatment.

You will be given a card asking you to come back to see us on a definite date. Please make it a point to return on that date at nine o'clock. You will then see the surgeon who was in charge of your operation. You may be asked to come back a few times more for observation. This is very necessary after an operation because it is the only way in which we may know the result of the operation and at the same time be able to give you personally what advice may be necessary.

The reason why this pamphlet is given to you is to give you the advice necessary to patients who have been operated upon or have had hospital treatment. After operation and after hospital treatment, certain rules of health must be understood and followed in order to insure the surest, quickest possible return to health. Since this Hospital began to ask patients to return regularly after operation for advice and observation, we have learned that many patients do not receive or did not understand this advice which you will find on the following pages.

Please read this advice repeatedly and become thoroughly familiar with it before leaving the hospital. Ask questions if the advice is not clear to you. When you come to see us on the date written on your card let the doctor who examines you know whether you have followed our advice.

Upon leaving the hospital you will have probably lost weight; you will not feel as strong as you did before coming in; you are likely to be constipated and may have certain symptoms which sometimes follow your particular operation.

For some time you may notice that you tire easily and cannot resume your work as soon as you had expected. This usually is the case after operation. Do not let it worry you. Resume exercise gradually, being careful to stop when tired, but do a little more each day than the day before. Get as much sleep as possible. Rest for an hour after each meal, if possible, but always after the mid-day meal by lying down flat on the bed, relaxing all your muscles.

Try to get as much sunlight and air during your convalescence as possible. If you go to the country this will be easy. If in the city, try to get into the parks, recreation piers or on the roof several hours a day.

Eat—

Eat slowly and at regular hours. Eat plenty of vegetables, especially green vegetables; brown, whole wheat, rye or bran bread; fruit in season or stewed fruit once a day.

Drink—

Drink at least eight glasses of water daily, buttermilk or one of the prepared sour milks rather than sweet milk.

Do Not Drink—

Do not drink more than one cup of coffee or tea daily. Avoid alcoholic drinks with the idea that they are necessary to your health or that they will do you any good. Alcohol is a poison and you should know it.

Bathing—

While dressings are still on use sponge bath. After dressings are removed take daily baths. Daily baths are very beneficial as well as desirable.

Constipation.

Constipation is common after operation. It is not due to the operation itself but is due to the restricted diet, lying in bed, catharsis and most of all, by the irregular bowel habits learned in the hospital. After you leave the hospital this constipation can and should be corrected immediately to prevent a great deal of future trouble. Let us impress it on you that this disturbance causes more misery than is credited to it. Constipation is cured by the following rules. They are simply rules of health and common sense and always work. Follow them carefully and you will have no trouble. Neglect them and you will suffer.

1. *Cathartics.*

Avoid all cathartics or medicines which make the bowels move. These cathartics contain a substance which irritates and inflames the bowels and naturally this causes a mild diarrhœa, depending on the dose of the poison. The movement which results from this medicine is not at all like a normal one. Avoid all enemas, suppositories or any other artificial means since they are absolutely unnecessary for correcting chronic constipation.

2. *Habit.*

You must train the bowels to move at a definite time each day. *Never permit them to move at any other time.* If you do, the bowel will forget the time at which it is supposed to move and you will again become constipated. In addition eat your meals at the same times each day. Also get up and go to bed at the same times each day.

3. *Diet.*

You must eat food which, when it is digested, leaves plenty of unused material. This material will collect in the rectum and form a large bulk which is necessary in order to have a proper movement. The foods which have this residue are as follows: Asparagus, spinach, string beans, carrots, turnips, lettuce, celery, sauerkraut. cabbage, brussels sprouts, boiled onions, corn and greens of all kinds. Eat two cupfuls of any of the above foods during the day dividing it up to suit your taste. Also eat either oatmeal, shredded wheat, craked wheat, black bread, bran bread, oatmeal bread, rye bread or whole wheat bread. Eat fruits at least once a day; fruit in season and especially stewed fruits.

Eat sparingly of the foods which contain no residue such as: Rice, barley, farina, gruel, white breads and potatoes. These are all good foods but contain little which is left over and consequently contribute very little to the bulk down in the rectum.

4. *Water.*

Drink at least eight glasses of water a day. This is not only necessary for your general good health but will aid in the softening of the residue left from the coarse vegetables mentioned above.

The following schedule is designed for your particular case in order to teach the bowel the habit mentioned above. Follow the schedule carefully since it is important that all the acts be performed at precisely the same hour each day.

......Rising hour.

......Drink two glasses of cold water or one cup of hot water while dressing.

......Breakfast.

......Go to the toilet for the bowel movement. Do not strain. If the bowels do not move after ten minutes, don't worry, but wait until the same time next morning. *Do not permit them to move at any other time in the day.* This is very important.

......Drink two glasses of water.

......Luncheon.

......Drink two glasses of water.

......Dinner.

......Eat some fruit. Drink glass of water.

......To bed.

Do not take medicine or use artificial means to make the bowels move.

On the loose sheet inserted into this folder are the particular items of information and advice which deal with your particular case. If you do not understand them, or wish further information, let the House Surgeon know and he will supply what you wish. Again, let us urge you to come back to see us at the given date and time, in order that we may accurately know the result of your treatment here and give you such advice as can come only from those who perform the operation upon you. If you have a doctor show him this pamphlet and ask him to call on us for any information he may wish.

"B"

A card given to the patient asking him to return:

Name **No.**

Please come to the Out-Patient Department,
Madison Ave. and 70th St., at 9 A. M. on

If you change your address, please send new address to
The Presbyterian Hospital Record Room
41 East 70th St., New York City.

ALWAYS BRING THIS CARD

Face of card—Name, history number and date of return to be filled in by follow-up nurse.

DATE OF NEXT RETURN

Back of card—Two columns for subsequent dates to be filled in by the follow-up nurse.

"C"

A letter sent to the patient if he fails to return in response to the card "B."

We asked you to come to the Hospital on
and have not yet heard from you. As we explained in the last notice, we wish to find your present condition.

The treatment in the Hospital gives different results in different individuals. It is therefore extremely important that we should know your present condition in order that we may be able to give you correct advice and at the same time complete our record of your case.

If you will call at the Hospital you will be directed to the Doctor with whom you are to consult.

Very truly yours,

"D"

A letter sent to the patient who lives out of town and fails to return after receiving letter "C."

My dear

We asked you to return for examination and suppose you were unable to do so as we have not seen you. We should like very much to see you personally, but if it is absolutely impossible for you to come to the Hospital for examination, will you please answer the questions on the enclosed blank, so that we may know your present condition as well as possible.

As we told you in the Hospital, the results of treatment or an operation differing in different individuals, it is therefore very important that you should be examined occasionally for a considerable period. It is for this reason that we are so anxious to find out your present condition.

Please answer as clearly as possible, and if you have a family physician, kindly send us his name and address.

Very truly yours,

"E"

A blank to be filled out by the patient, which is usually filled out by his physician.

SURGICAL CONDITION

Effect of treatment on chief complaint (pain, deformity, function, etc)
Wound closed After operation
Symptoms developed since operation

GENERAL CONDITION

Weight Present Weight
Strength Present strength
% of normal
Appetite Present earning capacity
% of normal

Work resumed
Bowels (regular) with catharsis
(irregular) without catharsis
General Body System:—

"F"

A letter sent to the family physician when patient fails to respond to letters "C" and "D."

Dear Doctor:

has been discharged from the Hospital.

We have asked to return for observation but have not seen or heard from h or seen recently. We would appreciate any information you might give us concerning present condition, in order to complete our records.

We thank you for your co-operation in this matter.

Very truly yours, Record Clerk.

"G"

A letter sent to the superintendent of a hospital in which the case is being cared for at the time information concerning him is desired.

(John) (Smith) (Age) (Address)
....is reported to us as being in your institution for treatment.

Would you kindly give us such a transcript or abstract of the record, as will indicate to us the present result of the treatment received by the patient in this institution.

The diagnosis and treatment were as follows:

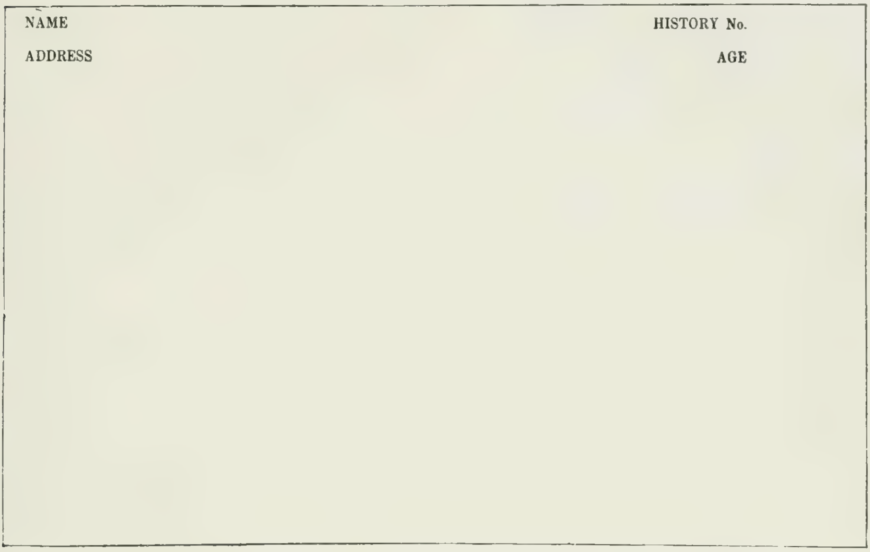
Diagnosis:—
Treatment:—

Thanking you, we are, Very truly yours,

Record Clerk.

"H"

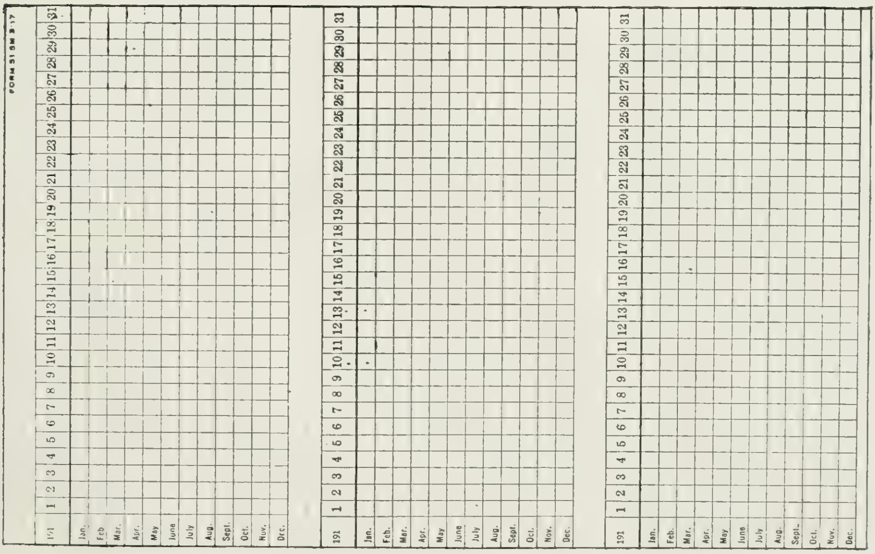
A card used for indicating the date of next return for follow-up examination.



NAME HISTORY No.

ADDRESS AGE

Face of card filled in by record clerk on discharge of patient.



FORM 51 5M 3-17

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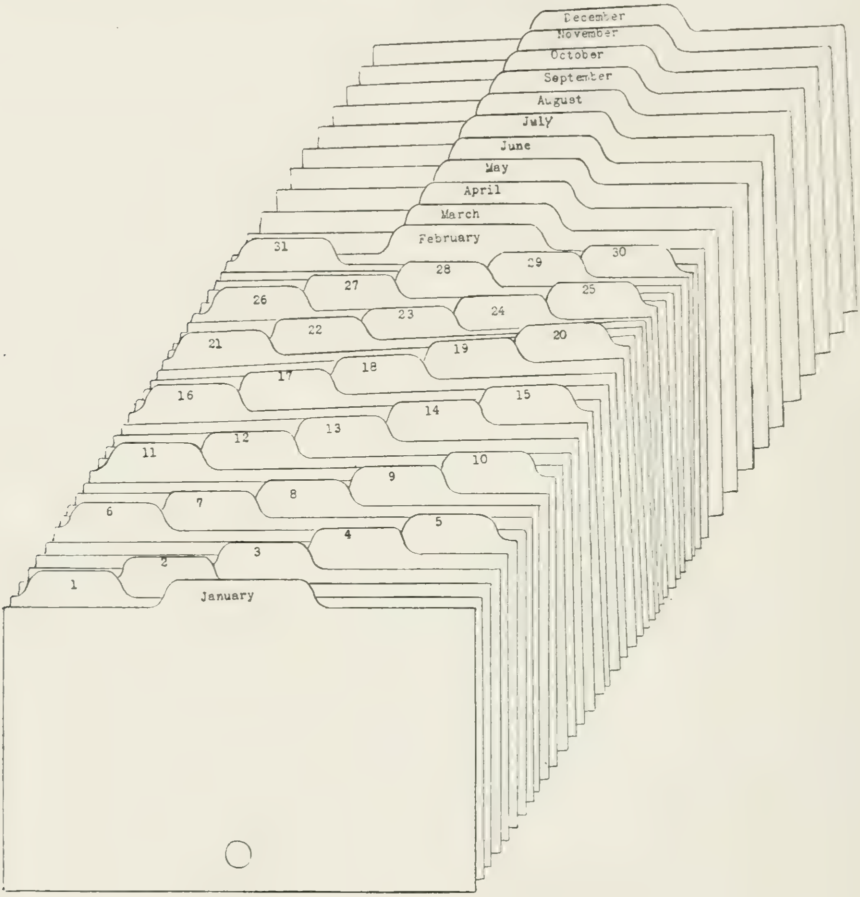
Back of card showing spaces for three full calendar years.

"I"

Chronological calendar file guide cards behind which the cards "H" are inserted under the date on which the patient is to return for follow-up: this is indicated on the card by a mark in the appropriate square.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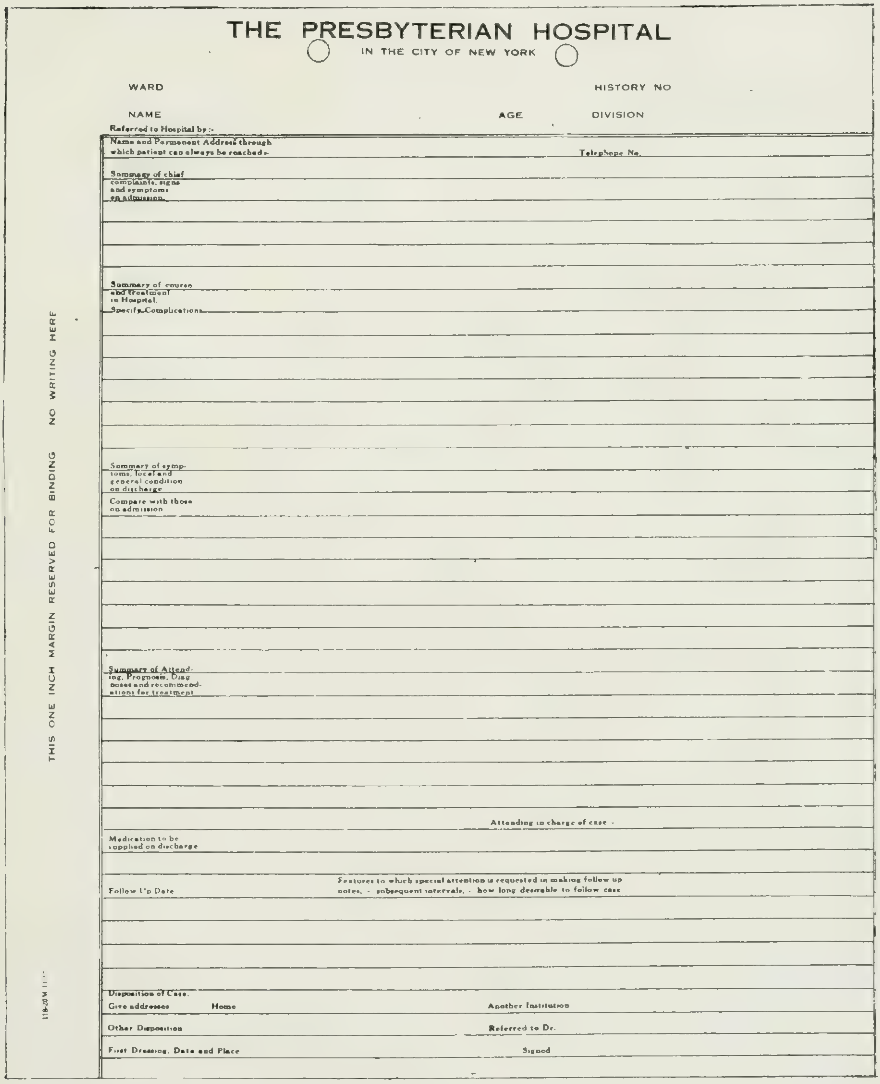
1
January

"J"

Sheet on which a summary is made of each case prior to discharge.



THE PRESBYTERIAN HOSPITAL

IN THE CITY OF NEW YORK

WARD HISTORY NO

NAME AGE DIVISION

Referred to Hospital by:-

Name and Permanent Address through which patient can always be reached:- Telephone No.

Summary of chief complaints, signs and symptoms on admission.

Summary of course and treatment in Hospital. Specify Complications.

Summary of symptoms, local and general condition on discharge

Compare with those on admission

Summary of Attending, Prognosis, Diagnoses and recommendations for treatment

Attending in charge of case -

Medication to be supplied on discharge

Follow Up Date

Features to which special attention is requested in making follow up notes, - subsequent intervals, - how long desirable to follow case

Disposition of Case.

Give addresses Home Another Institution

Other Disposition Referred to Dr.

First Dressing, Date and Place Signed

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THE INTERVAL RESULT SYSTEM.

The ultimate purpose of a follow-up system is so to educate the physician or surgeon that he may accurately and without prejudice determine the success or failure of therapeutic measures in an unselected, consecutive series of cases, and to use the experience thus gained for the benefit of future patients. This purpose is easier of accomplishment in surgical patients because of the greater opportunities of determining the lesions as found at operation and because of the more easily determined ratio between treatment and interval result. It is therefore the more incumbent upon surgeons to employ the follow-up system. Failure to do so is unquestionably unjust to future patients and implies a standstill in the surgeon's education.

It must be emphasized, however, that the mere return of patients in large numbers at stated intervals after operation, will not in itself accomplish this essential purpose. Whatever the benefit to patients may be in the way of advice and treatment following operation, the education of the surgeon is not definitely advanced unless the results of the therapy employed in individual cases are definitely recorded at stated intervals and unless these recorded results are so tabulated or filed as to be available for subsequent analysis. This filing of results for varying periods of time has been the logical development of our follow-up system. As soon as the details incident to the routine return of surgical patients had been worked out, and after the system as elaborated had proved successful beyond all expectations, it was evident that the real purpose of the follow-up system could not be accomplished without a *systematic recording and filing of results.*

To do this we found it was essential to correlate the three prime factors in the record room system, namely, the histories, the diagnosis file and the follow-up notes, but not until the unit history was installed in the Hospital was it possible to make intelligent and comprehensive follow-up notes. If, without the combined record of the patient, as observed in all departments of the Hospital, including notes made in his case as an in-patient and as an out-patient, subsequent follow-up notes are at best disjointed. Only those who have used the antiquated and uncorrelated forms of in-patient and out-patient histories and later studied the unit histories in follow-up work can appreciate the advantages of this system. It is impossible to overestimate these advantages. The entire record of the case, including laboratory records, radiograms, bedside and special notes, previous follow-up notes and examinations, is collected in chronological order in the unit history and is available for as careful an analysis as may be necessary in determining the result of the surgical treatment at the follow-up visit.

Many patients come for treatment for more than one ailment or lesion. The results of the operation or operations usually differ for these various lesions. Thus the result of a hernia repair at the end of twelve months may be perfect, but abdominal pain and tenderness in the right lower quadrant, for which the patient's appendix was removed, may still persist. A fair and accurate record of the results of the surgical procedures in such a case can be made only by stating the results under these separate diagnoses. Failures to cure at stated intervals point out either an error in diagnosis or an error in treatment. The fact to be emphasized in recording the follow-up notes is that the patient was operated upon for a lesion or for lesions, the diagnoses of which were supposedly based upon combined clinical, operative and laboratory findings and the results for the purposes of subsequent study must be recorded under the same diagnoses.

The full opportunities and benefits of a result file in a hospital can be realized only if the following desiderata are made effective:

1. Every patient should be requested to return and if he does not do so, every effort should be made to insure his return or to get word of his condition at the desired interval. This eliminates the palpable but common error in so many reports of recording the results in selected, non-consecutive cases, or the results of a single operator who has specialized in the subject reported.

2. It is obvious to any one who has attempted to determine the result of surgical therapy that the result must be a combined one, that is, it must include the anatomical, the symptomatic and the economic result in each case. The term "cured" should be eliminated and a graded scale for anatomical, symptomatic and economic result for the period observed should be used. The scale most convenient is the use of numerals, 4, 3, 2, 1, 0, as employed in the Mayo Clinic. To illustrate: At the end of a year after operation, the patient may have a firm, linear scar in the epigastrium, radiograms may show a patent gastro-jejunostomy stoma but the patient may continue to complain of pain after meals, and he may be entirely incapacitated for work. Obviously the result is a failure symptomatically and economically whereas the anatomical result may be considered successful. This result should be recorded as a "4.0.0." Another example, and a frequent one, may be mentioned. A woman may have been operated upon for a definitely diagnosed retro-flexion and prolapse of the uterus. At the end of six months, examination shows the uterus to be normal in position and in size, perineum firm, but she still may complain of dysmenorrhea and backache, at the same time claiming that she is not hindered from doing her accustomed work. Such a result should be recorded as a "4.2.4." The term "cured" should not be used, for it is not at all a truthful one in many cases and it does not specify the anatomical, symptomatic and economic result. Symptoms and lesions too frequently recur after they have been "cured." The one unpardonable sin in hospital records is the term "cured" as used by house surgeons in signing the discharge cards of patients operated upon for malignant tumors.

3. The results are most advantageously determined and recorded by a member of the attending staff most interested in the study of the disease of the patient examined, that is, if patients operated upon for gynecological conditions or diseases of the mammary gland, or for lesions of the nervous system, are told to return to see the attending surgeon specially interested in the particular group of cases he is intensively studying, the notes made in the cases and the results recorded would be more comprehensive and accurate. The surgeon most competent to make such follow-up notes is the one who is engaged in a history analysis of the lesions referred to him, regardless of whether or not he has operated upon the patient.

4. This emphasizes the important—in many ways the most important—aim of recording results, namely the correlation of history analysis with the interval result system. No other method of study offers as practical and at the same time constructive and instructive results as this correlation. No study will improve more definitely the surgeon's ability to determine the proper surgical procedure in a given case and to give the correct prognosis, than a careful comparison of his results for a given period in a series of such cases. During the past five years great advance has been made in organizing follow-up systems and in elaborating history analysis methods, but the correlation of history analyses with the result analyses, has not been given the prominence it deserves.

The details of the method of our interval result system are given below. It is the result of many attempts and many alterations and will undoubtedly be altered as time goes on, but the basic principles as above outlined will govern its future development.

The terms "cured," "improved," are not used. Results are recorded in a descending scale of success to failure by means of numbers from 4 to 0. This scale is used to indicate the result from the anatomical, the symptomatic and the economic standpoint and in the order named.

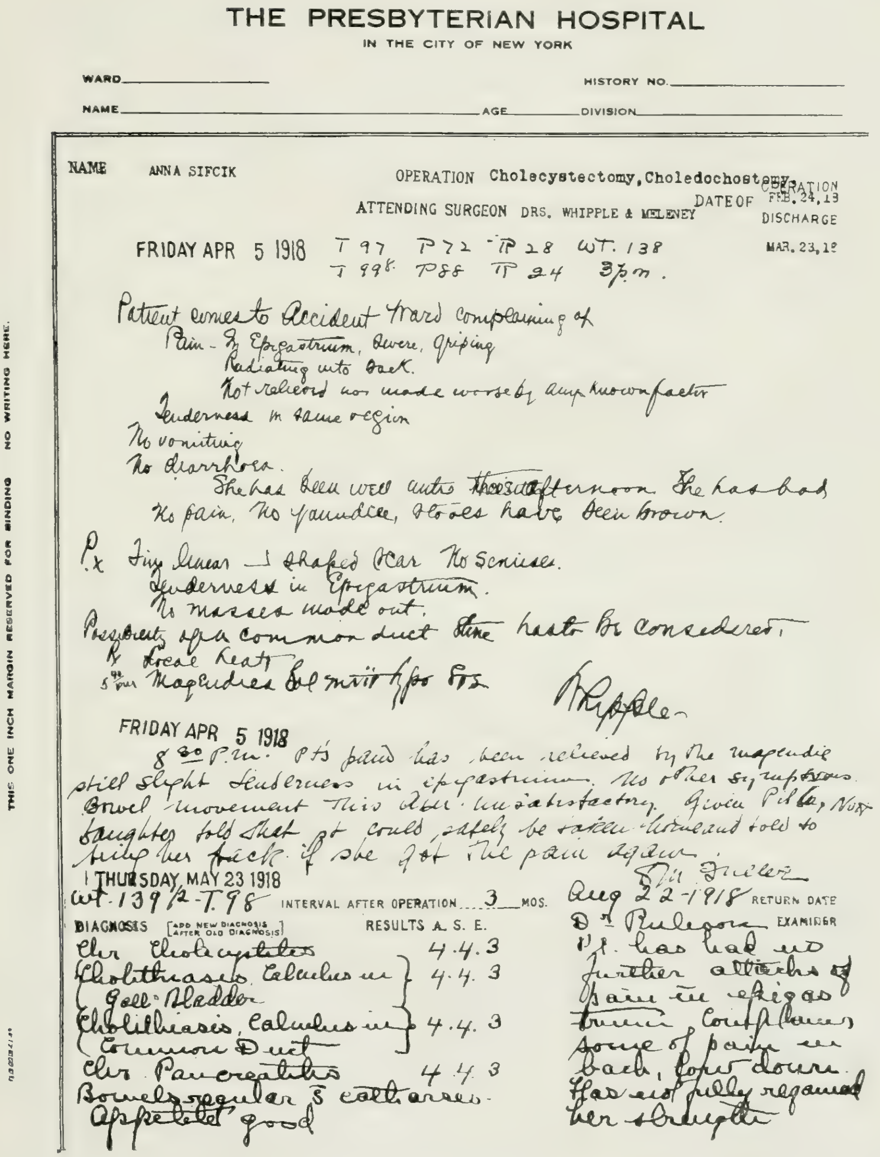
The interval after operation is indicated in months. No results are recorded under one month. The intervals for recording the results are preferably two, six, twelve, twenty-four and thirty-six months. The result is not necessarily recorded with every follow-up visit. The intervals are made shorter in cases operated upon for malignancy and no limit is placed on the length of time such cases are to be followed.

With each follow-up visit it is required that the follow-up nurse or volunteer worker copy off on the follow-up sheet the diagnosis or diagnoses, according to the terminology as indicated on the face sheet of the unit history. Opposite each of these diagnoses the result is recorded by the attending surgeon or dictated by him. The interval following operation is written in months in the blank space provided for that purpose. The nurse is responsible for insuring the recording of the result and the history is not put aside for that of another case until the attending has named the result. A rubber stamp as illustrated in Fig. I is used as a heading for the notes at each follow-up visit. This is stamped upon the follow-up sheet by the record clerk when the history is called for by the nurse in the follow-up room. An example of the follow-up sheet as it is used in our unit histories is given in Fig. II.

Fig. I. Heading for Follow-Up Notes.

INTERVAL AFTER OPERATION ________ MOS. RETURN DATE

DIAGNOSES [ADD NEW DIAGNOSES AFTER OLD DIAGNOSES] RESULTS A. S. E. EXAMINER



THE PRESBYTERIAN HOSPITAL
IN THE CITY OF NEW YORK

WARD________ HISTORY NO.________
NAME________ AGE________ DIVISION________

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NAME ANNA SIFCIK

OPERATION Cholecystectomy, Choledochostomy.

ATTENDING SURGEON DRS. WHIPPLE & MELENEY

DATE OF OPERATION FEB. 24, 18
DATE OF DISCHARGE MAR. 23, 18

FRIDAY APR 5 1918 T 97 P 72 R 28 WT. 138
T 99⁸ P 88 R 24 3 p.m.

Patient comes to Accident Ward complaining of
Pain – In Epigastrium, Severe, Griping
Radiating into back.
Not relieved nor made worse by any known factor
Tenderness in same region
No vomiting
No diarrhoea.
She has been well until ~~this~~ afternoon. She has had no pain, no jaundice, stools have been brown.

Px Long linear J shaped scar No hernia.
Tenderness in Epigastrium.
No masses made out.
Possibility of a common duct stone has to be considered.
Rx Local heat
5^{40} pm Magendie's sol. m VII hypo Pts

Whipple

FRIDAY APR 5 1918
8^{30} P.M. Pt's pain has been relieved by the magendie still slight tenderness in epigastrium. No other symptoms. Bowel movement this aft. unsatisfactory. Given Pills, Her daughter told that pt could safely be taken home and told to bring her back if she got the pain again.

Fuller

THURSDAY MAY 23 1918
Wt. 139½ – T. 98 INTERVAL AFTER OPERATION 3 MOS.

Aug 22-1918 RETURN DATE
Dr. Rulison EXAMINER

DIAGNOSIS [ADD NEW DIAGNOSIS AFTER OLD DIAGNOSIS]	RESULTS A. S. E.
Chr. Cholecystitis	4.4.3
Cholelithiasis, Calculus in Gall Bladder	4.4.3
Cholelithiasis, Calculus in Common Duct	4.4.3
Chr. Pancreatitis	4.4.3

Bowels regular s̄ cathartics.
Appetite good

Pt. has had no further attacks of pain in epigastrium. Complains some of pain in back, low down. Has not fully regained her strength

Fig. II. Sample follow-up sheet with notes and results as used in a unit history. The date and printed matter here shown for each return is added by the record room clerk or follow-up nurse with a rubber stamp.

When the results are recorded, the histories are returned to the Record Room. The Record Clerk then records the results with the history number on cards for each diagnosis, as illustrated in the article on Record Room, Fig. 17, a, b, c. A result may be for an interval previously recorded from other cases under that particular diagnosis. If so, the same card is used, the history number of that day's follow-up examination, followed by the result in that case, are typed on the card in question. Thus there may be fifty history numbers with their results filed behind a twelve month's guide card, under the diagnosis "Carcinoma of the Female Mammary Gland." These result cards behind their corresponding interval guides are filed behind the diagnosis guide cards in the diagnosis file. This combination of diagnosis file with result file makes it not only possible, but almost unavoidable to compare the diagnoses with the results. In a university hospital where the file is used by the attending and house staff and by the students and laboratory workers, the easy and desirable comparison of disease with therapeutic results is truly an education in itself. It is a comparison that is impossible to make in the majority of hospital record rooms. The illustration in article on Unit History System, Fig. 17, a, b, c, shows the combined diagnosis and result file, as it is at present in operation.

A member of the attending staff is delegated to supervise the recording of results. All histories coming back from the follow-up clinic, in which there is any mistake in the recording of results in their relation to the diagnoses, or any failure to record the results, are referred to this surgeon and the filing is not done until approved by him.

ALLEN O. WHIPPLE, M. D.

HISTORY ANALYSIS.

History analysis as a method has now been in use in a number of institutions in this and other countries for several years and it may be said that its value is firmly established. It is axiomatic that sound judgment must rest upon a careful analysis of facts.

The worth of history analysis has been greatly advanced at The Presbyterian Hospital during the past three years by new and constructive methods of recording cases, tabulating findings and results. These methods have been described under sections devoted to the Record Room, its Diagnostic and Interval-Result File, the Unit History and the Follow-Up System. The most elaborate systems of this type are distinctly limited in value unless used as a means to correlate facts and observations in such a manner that advance in our scientific knowledge may result. With more improved clinical methods being continually devised it is improbable that we may attain the whole truth, nevertheless it is only through a careful analytical method that we may arrive at the most advanced outpost of scientific thought.

The labor involved in taking an inventory of all the facts and clinical observations in a case history and transferring these to sheets for tabulation is necessarily great. Without an easy method of locating the histories in question our trouble is multiplied. Under the present system of diagnosis file and unit history it requires but a few moments to have on the table before us the complete histories with observations on the course to date of any group desired.

A further economy of the tabulator's time and at the same time a great improvement in the value of the analysis, result from the printing of the statistical forms on paper of a size which permits them to be included in the history. The checking off of all points before the case leaves the hospital conduces to accuracy and completeness of details and makes possible the assembling of such data a more simple matter.

In the follow-up clinic the need of analytical study of certain surgical conditions with a view to diagnostic or therapeutic improvement is every now and then clearly demonstrated. More and more of this work is being undertaken and as time passes it will be of greater value owing to the increasing total of cases and the possibility of studying the results of treatment through accurate follow-up notes covering long periods of time.

At the present time history analyses are being done in the following: Post-operative Pneumonitis, Surgical Diseases of the Biliary Tract, Osteomyelitis, Cases of Uterine Bleeding, Diseases of the Cervical Lymph Glands and Chronic Appendicitis.

In a recent article* Whipple has reported the results of his analytical study of 97 cases of Post-Operative Pneumonitis occurring at the Hospital during the years 1915-16. It includes most interesting and instructive tables of age and seasonal incidence, type and method of anaesthesia, type of operation, physical signs, including radiographic findings, symptoms, bacteriology and mortality and represents a distinct advance in our knowledge of this condition. A further report dealing with the 56 cases occurring during 1917 will soon be published.

Since 1913, 380 cases of Biliary Tract Disease have been analyzed. A reference to the statistical form gives one an idea of the comprehensive character of this analysis. Each finding is entered under its proper heading on a tabulating sheet so that one may with great rapidity and exactness determine its incidence. For example, one may wish to ascertain the actual diagnostic value of pain radiating to the right shoulder during biliary colic. All that is necessary is to total the column of this finding and the percentage is then readily determined. These statistics will be drawn upon from time to time in a series of reports and papers dealing with Biliary Tract Conditions.

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*A Study of Post-Operative Pneumonitis, Surg., Gynaecol & Obs., Jan., 1918.

The study of Osteomyelitis from an analytical standpoint has but recently begun. A glance at the form which is being used gives one an idea of the numerous interesting points which are to be tabulated. Consider the value it will be to know the percentage of cases showing a thrombosis of the nutrient vessels of the involved bone or the percentage of cases giving definite evidence of a portal of infection. The rapidity of closure under various methods of treatment and especially the end results in terms of years will be of singular interest in this group of cases.

The statistical coincidence of uterine bleeding with various anatomical lesions is being determined in 250 surgical and 250 medical cases. The tabulation of the surgical cases has been completed and indicates that the anatomical lesions are so diversified, *e. g.*, Retroversion, Chronic Appendicitis, Meningitis, Pulmonary Tuberculosis, Sarcoma of the Ilium, etc., that their etiological significance may well be doubted. The frequency of uterine bleeding in these various conditions coincides fairly closely with the frequency of occurrence of these conditions in the general hospital admissions. The only unexpected finding in this study has been the relatively increased frequency of bleeding in the acute pelvic inflammations.

Corscaden has reported his findings in 66 cases of uterine bleeding,* considering especially the course, treatment and end results. His conclusion from this study is in brief that aside from ulceration (Carcinoma), pedunculated intra-uterine growths, trauma and pregnancy, the stoppage of menstruation by radiotherapy will cause a cessation of the pathological uterine bleeding, even though associated anatomical changes may still persist, *e. g.*, retroversion or fibromyomata.

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*American Journal of Obstetrics and Disease of Women, Feb., 1918.

A history outline for gynecological cases has been so arranged that the data may be recorded directly on the analytical sheets regardless of the preconceived or final diagnosis. The multiplicity of conditions in the female pelvis makes the blanket form of statistical sheet a necessity. The items are arranged according to the usual method of taking histories, providing an elaborated sheet for the menstrual history, headings for personal and family history, chief complaints and previous diseases. A blank space has been left for recording the clinical picture. A list of symptoms has been arranged for detailed analysis according to the manner in which they are referred to the various body systems and regardless of their diagnostic value. The physical examination is confined to abdomen and pelvis. A separate sheet is to be provided which will indicate the special diagnostic procedures (serological, Roentgenological, etc.) which may be desired in any case. In the course of time those procedures found to be particularly helpful in any type of case may thus be more definitely determined and a standardization of them may be realized.

In the study of Diseases of the Cervical Lymph Glands, among other things it will be of great interest to ascertain the type of case with all its attendant phenomena which does best by immediate excision of the glands, that type which does better by preliminary therapeutic measures and finally the type which should perhaps be treated throughout by measures other than surgical.

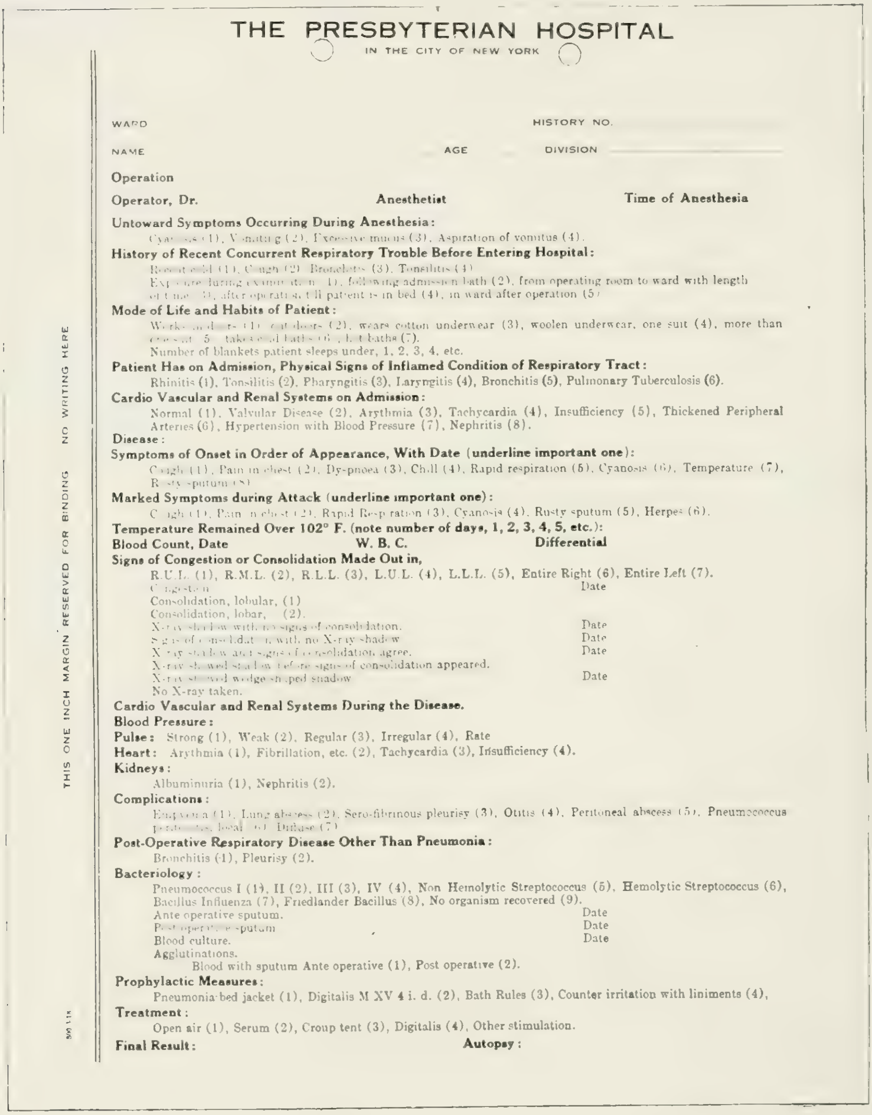
In the analytical chart devised for Chronic Appendicitis it will be noted that considerable space is devoted to the study of the alimentary tract from a diagnostic standpoint, stress being laid upon the gastro-enterological findings of the Roentgenologist. The reason for this is that a considerable number of the failures following operation in these cases never do show any definite symptom complex. It is possible, therefore, that careful pre-operative fluoroscopic examination of a large number of cases may afford data that may enable us to place these border line conditions more accurately.

We are including in this report several of the forms used in the work with the hope that they may invite criticism as well as prove of possible interest to those engaged in similar studies.

In conclusion we must acknowledge that we have encountered many difficulties and suffered much discouragement in our endeavors to properly carry out this work. What success has been attained may be attributed to an enthusiastic supervision by some member of the Attending Staff especially interested and his ability to enlist and maintain the enthusiasm of those upon whom devolves the duty of keeping the statistical forms filled out in detail to date.

Elbert T. Rulison, Jr., M. D.

HISTORY ANALYSIS FOR POST-OPERATIVE PNEUMONITIS.



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THE PRESBYTERIAN HOSPITAL

IN THE CITY OF NEW YORK

WARD HISTORY NO.

NAME AGE DIVISION

Operation

Operator, Dr. **Anesthetist** **Time of Anesthesia**

Untoward Symptoms Occurring During Anesthesia:

Cyanosis (1), Vomiting (2), Excessive mucus (3), Aspiration of vomitus (4).

History of Recent Concurrent Respiratory Trouble Before Entering Hospital:

Recent cold (1), Cough (2), Bronchitis (3), Tonsilitis (4)

Exposure during examination (1), following admission bath (2), from operating room to ward with length of time (3), after operation till patient is in bed (4), in ward after operation (5)

Mode of Life and Habits of Patient:

Works indoors (1), outdoors (2), wears cotton underwear (3), woolen underwear, one suit (4), more than one suit (5), takes cold baths (6), hot baths (7).

Number of blankets patient sleeps under, 1, 2, 3, 4, etc.

Patient Has on Admission, Physical Signs of Inflamed Condition of Respiratory Tract:

Rhinitis (1), Tonsilitis (2), Pharyngitis (3), Laryngitis (4), Bronchitis (5), Pulmonary Tuberculosis (6).

Cardio Vascular and Renal Systems on Admission:

Normal (1), Valvular Disease (2), Arythmia (3), Tachycardia (4), Insufficiency (5), Thickened Peripheral Arteries (6), Hypertension with Blood Pressure (7), Nephritis (8).

Disease:

Symptoms of Onset in Order of Appearance, With Date (underline important one):

Cough (1), Pain in chest (2), Dyspnoea (3), Chill (4), Rapid respiration (5), Cyanosis (6), Temperature (7), Rusty sputum (8)

Marked Symptoms during Attack (underline important one):

Cough (1), Pain in chest (2), Rapid Respiration (3), Cyanosis (4), Rusty sputum (5), Herpes (6).

Temperature Remained Over 102° F. (note number of days, 1, 2, 3, 4, 5, etc.):

Blood Count, Date **W. B. C.** **Differential**

Signs of Congestion or Consolidation Made Out in,

R.U.L. (1), R.M.L. (2), R.L.L. (3), L.U.L. (4), L.L.L. (5), Entire Right (6), Entire Left (7).

Congestion Date

Consolidation, lobular, (1)

Consolidation, lobar, (2).

X-ray shadow with no signs of consolidation. Date

Signs of consolidation with no X-ray shadow Date

X-ray shadow and signs of consolidation agree. Date

X-ray showed shadow before signs of consolidation appeared.

X-ray showed wedge shaped shadow Date

No X-ray taken.

Cardio Vascular and Renal Systems During the Disease.

Blood Pressure:

Pulse: Strong (1), Weak (2), Regular (3), Irregular (4), Rate

Heart: Arythmia (1), Fibrillation, etc. (2), Tachycardia (3), Insufficiency (4).

Kidneys:

Albuminuria (1), Nephritis (2).

Complications:

Empyema (1), Lung abscess (2), Sero-fibrinous pleurisy (3), Otitis (4), Peritoneal abscess (5), Pneumococcus peritonitis, local (6), Diffuse (7)

Post-Operative Respiratory Disease Other Than Pneumonia:

Bronchitis (1), Pleurisy (2).

Bacteriology:

Pneumococcus I (1), II (2), III (3), IV (4), Non Hemolytic Streptococcus (5), Hemolytic Streptococcus (6), Bacillus Influenza (7), Friedlander Bacillus (8), No organism recovered (9).

Ante operative sputum. Date

Post operative sputum Date

Blood culture. Date

Agglutinations.

Blood with sputum Ante operative (1), Post operative (2).

Prophylactic Measures:

Pneumonia bed jacket (1), Digitalis M XV 4 i. d. (2), Bath Rules (3), Counter irritation with liniments (4),

Treatment:

Open air (1), Serum (2), Croup tent (3), Digitalis (4), Other stimulation.

Final Result: **Autopsy:**

HISTORY ANALYSIS FOR SURGICAL DISEASES OF THE BILIARY TRACT.

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THE PRESBYTERIAN HOSPITAL
IN THE CITY OF NEW YORK

HISTORY ANALYSIS FOR SURGICAL DISEASES OF THE BILIARY TRACT.

Case No. History No. Patient's Name:
Sex: Age: Admission date: Address:
Discharge date:

Operator: ....

I. Chief Complaint.

1. Pain in 1) Epigastrium 2) R.U.Q. 3) L.U.Q. 4) R.L.Q. 5) Rt. shoulder 6) in back between shoulders 7) All over abdomen 8) at navel
2. Soreness in 1, 2, 3, 4, 5, 6, 7, 8. 3. Vomiting 4. Jaundice 5. Clay colored stools
6. Pruritus 7. Biliary Fistula
8. Symptoms of Indigestion:
    1. Feeling of Distress in 1) Epigastrium 2) R.U.Q. 3) L.U.Q. 4) R.L.Q. 5) Around navel.
    2. Feeling of Distention in 1, 2, 3, 4, 5.
    3. Feeling of a Lump in 1, 2, 3, 4, 5.
    4. Belching of gas 5. Sour eructations.
9. Constitutional Disturbances:
    1. Fever. 2. Chills. 3. Loss of Weight. 4. Loss of Strength. 5. Loss of Appetite 6. Melaise 7. Constipation 8. Diarrhœa.

II. History of Present Disorder

1. History of Present or Last Attack.
    1. Onset
        1. Mode: 1) Sudden 2) Gradual
        2. Time of Onset: 1) Day 2) Night.
           ...... 1) hrs. 2) days 3) weeks 4) months ago
        3. Duration of Attack: ...... 1) hrs. 2) days 3) weeks 4) months.
    2. Pain:
        1. Type: 1) Constant 2) Intermittent
        2. Character: 1) Sharp 2) Dull 3) Colicy 4) Cramp-like 5) Stabbing or knife-like 6) Burning 7) Gnawing 8) Boring 9) Aching
        3. Location: 1) Epigastrium 2) R.U.Q. 3) L.U.Q. 4) R.L.Q. 5) About Navel 6) Rt. Shoulder 7) In back between shoulders.
        4. Localized to 1, 2, 3, 4, 5, 6, 7.
        5. Radiation to 1, 2, 3, 4, 5, 6, 7.
        6. Relation of onset of attack to meals......hrs. after ingestion of food.
        7. Eased by:
        8. Made worse by:
           { 1) Vomiting 2) Defecation 3) Urination 4) Sitting up. Lying down on 5) back 6) rt. side 7) left side 8) pressure over epigastrium 9) over R.U.Q. Medication by 10) mouth 11) hypodermis 12) hot application 13) cold application 14) belching of gas. Food 15) meats 16) starches 17) fats 18) acids 19) fried or greasy food.
    3. Soreness or Tenderness.
        1. Onset: ...... 1) hrs. 2) days 3) weeks ago
        2. Duration: ...... 1) hrs. 2) days 3) weeks
        3. Location: 1) Epigastrium 2) R.U.Q. 3) L.U.Q 4) R.L.Q. 5) around navel 6) Rt. shoulder 7) back
        4. Worse on deep inspiration.

10-3-18

HISTORY ANALYSIS FOR SURGICAL DISEASES OF THE BILIARY TRACT—(Continued).

4. Deranged Function.
   1. Vomiting 2. Nausea.
      1. Onset: 1)with pain 2).........hrs. after pain 3)........,.hrs. after ingestion of food 4)before onset of pain
      2. Number of times
      3. Vomitus:
         1. Color: 1)green 2)black 3)red 4)coffee ground material.
         2. Amount: 1)slight 2)moderate 3)large
         3. Food: 1)none 2)of last meal 3)of previous meals 4)mucus
         4. Taste: 1)acid 2)bitter.
      4. Jaundice:
         1. Onset:............days after onset of acute symptoms
         2. Duration:............1)days 2)weeks 3)months
         3. Pruritus:
            1. Onset:............days after onset of jaundice.
            2. Duration:............days
         4. Defecation:
            Movements have been 1)constipated 2)loose 3)normal 4)large 5)small 6)clay colored 7)brown 8)black 9)contained gall stones 10)mucus 11)blood.
         5. Symptoms of Indigestion:
            1. Feeling of Discomfort after meals in 1)epigastrium 2)R.U.Q. 3)L.U.Q. 4)R.L.Q. 5)about navel.
            2. Feeling of Distention after meals in 1, 2, 3, 4, 5.
            3. Feeling of a Lump after meals in 1, 2, 3, 4, 5.
            4. Belching of Gas after meals. 5)Sour Eructations.
      5. Constitutional Disturbances.
         1. Loss of Weight:.........lbs.
            In.........1)days 2)weeks 3)months 4)years.
         2. Loss of Strength (If possible express in per cent of former strength)
         3. Loss of Appetite
         4. Chills, No. Daily. 5. Has goose flesh been noticed ?
         6. Fever for............days. weeks. 7. Malaise.

II. History of Previous Attacks:

1. Number of previous similar attacks............Give the dates of the previous attacks accurately if possible.
2. Number of dissimilar attacks............State in what symptoms these attacks differed from the present or last attack;
   In............attack there was:
   In............attack there was:
   In............attack there was:
3. Operation was performed.........months ago. Name operation:
4. Symptoms of Indigestion have been present for.........1)weeks 2)months 3)years.
   1. Feeling of Distress after meals in 1)epigastrium 2)R.U.Q. 3)L.U.Q. 4)R.L.Q. 5)about navel.
   2. Feeling of Distention after meals in 1, 2, 3, 4, 5.
   3. Feeling of Lump after meals in 1, 2, 3, 4, 5.
   4. Belching of Gas after meals. 5. Sour Eructations after meals.
5. Symptoms of Present Disorder began during or soon after the............pregnancy.
   Symptoms of the..........attack began during or soon after the............pregnancy.
   Symptoms of the..........attack began during or soon after the............pregnancy.
   Did symptoms of present disorder begin 1)before the menopause 2)after the menopause.
   Do symptoms of present disorder have any relation to menses.
   Do attacks come on before, during or after the period.

III. History of Other Disorders and Diseases:

Name the diseases with the age of the patient at the time the disease was contracted and the duration of the diseases if they were of the chronic type. This should include the venereal diseases. Be especially careful to ask for a history of typhoid fever and any previous peritoneal infection such as appendicitis.

HISTORY ANALYSIS FOR SURGICAL DISEASES OF THE BILIARY TRACT—(Continued).

IV. Facts Relating to the Patient's Normal and Abnormal Habits, Customs and Economic Condition and Routine:

1. Habits of.
   1. Eating: 1)regular 2)irregular 3)hearty 4)light 5)rapid 6)slow.
      Diet: Patient eats 1)coarse cereals 2) fruit 3)green vegetables 4)fried foods
      Meat is eaten .... a day. Eggs are eaten .... a day. Bread 1)white 2)whole wheat 3)graham 4)rye 5)bran. Fish is eaten .... a week. Cream .... a day. Butter .... a day.
      Water is drunk .... glasses daily; coffee .... cups daily; tea .... cups daily.
   2. Defecation : .... daily Bowels move regularly 1)with catharsis 2)without catharsis
      Bowels move irregularly 1)with catharsis 2)without catharsis
      Movements are 1)constipated 2)loose.
   3. Micturition .... during the night.
   4. Sleep: 1)sound sleeper 2)Light sleeper
   5. Exercise: 1)taken regularly 2)irregularly 3) none.
   6. Work: 1)indoors 2) outdoors 3) manual 4)clerical 5)by day 6)by night 7) average working hours ....
   7. Drugs:
      1. Alcohol in the form of 1)beer 2)ale 3)wine 4) whiskey or distilled liquors.
         2. Number of drinks daily .... 3. Number of drinks before breakfast ....
         4. Number of years that the patient has been taking alcohol.
      2. Tobacco is used in the form of 1) cigars 2) cigarettes 3) pipe 4)chewing tobacco.
         1. Number of smokes daily, average .... 2. Number of years that tobacco has been used ....
      3. Narcotic drugs are used in form of 1)Morphine 2)Opium 3) Cocaine 4) Heroine.
2. Economic Condition: Monthly Income ....
3. Sexual History (for the female patients)
   Menstrual History: 1) regular 2)irregular 3) painless 4)painful.
   Marital History: 1) Number of Children .... State their ages for relation to present disorder 2) Number of miscarriages. State the time of occurrence.
4. Family History of gall bladder disease in 1)mother 2)sisters 3)father 4)brothers.
5. Intelligence of the patient is 1) excellent 2) fair 3) poor
6. Accuracy of the history is 1) accurate 2) fair 3) inaccurate.

V. Examinations:

1. Physical Examination:
   1. General: Admission T. .... P. .... R. ... .
      1) acutely ill 2)chronically ill 3) well nourished 4) poorly nourished 5) obese 6) thin 7) emaciated 8) cachectic 9) nervous 10) apathetic 11) skin jaundiced 12) sclerae jaundiced 13) pale 14) cyanotic 15) dyspnoeac 16intelligent 17) unintelligent.
   2. Head and Extremities.
      Tongue: 1) moist 2) dry 3) coated. Tonsils 1) enlarged 2) inflamed.
      Teeth: 1) in good condition 2) carious 3) pyorrhoea present 4) false.
      Pupils: 1) react normally 2) do not react normally.
      Extremities: 1) knee jerks active 2)sluggish 3) absent
      Superficial Lymph Glands: 1) enlarged 2) not enlarged
   3. Chest.
      1. Heart: 1) normal 2) enlarged 3) compensated 4) not compensated. Blood Pressure, systolic:
      2. Lungs: Normal
         1. Signs of infiltration in 1)R.U.L. 2)R.M.L. 3)R.L.L. 4)L.U.L. 5)L.L.L.
         2. Signs of consolidation in 1, 2, 3, 4, 5.
         3. Signs of fluid in 1, 2, 3, 4, 5.
   4. Pelvic Examination:
      Adnexa: 1)normal 2)inflamed
      Uterus: 1)normal 2)displaced 3)fibromyoma 4)carcinoma present
      Rectal: 1)normal 2)stricture or obstruction present 3)prostate enlarged 4)prostate inflamed.
   5. Abdominal Examination.
      Inspection 1)contour normal 2)obese 3)scaphoid 4)distended 5) biliary fistula 6)operative scar in .... Quadrant.

HISTORY ANALYSIS FOR SURGICAL DISEASES OF THE BILIARY TRACT—(Continued).

R.L.Q. epigastrium hypogastrium 7)hernia present in R.U.Q. R.L.Q. epigastrium hypogastrium inguinal region umbilical region.

Palpation Tenderness present in 1)R.U.Q. 2)over gall bladder 3)epigastrium 4)R.L.Q. 5)at navel 6)L U.Q. 7)general 8)rt. costo vertebral angle 9)over rt. scapula 10)over border of trapezius, rt. left.

Rigidity present in 1, 2, 3, 4, 5, 6, 7.

Gall bladder 1)palpable 2)movable from side to side.

Mass made out in 1, 2, 3, 4, 5, 6.

Liver edge palpable .... cm below costal margin. Spleen palpable Rt. kidney palpable.

2 Radiographic Examination.

Gall stone shadow 1)present 2)not made out.

Stomach: 1)normal 2)defect at pylorus 3)defect in duodenum 4)adhesions present.

Colon: 1)normal Obstruction noted at 2)cecum 3)hepatic 4)splenic 5)sigmoid 6)rectum

3. Clinical Pathology

Blood Examination. W.B.C. .... Poly ... . % R.B.C. .... Hgb. .... %.

Blood Culture 1)sterile 2)positive for ....

Blood Cholesterin reading .... Blood Coagulation Time ....

Gastric Analysis: 1)free HCl present 2)absent 3)lactic acid present 4)Boas-Oppler

Sputum Examination: Pneumococcus Group I, II, III, IV. T.b.c. present

Feces positive for 1)occult blood 2)bile 3)pancreatic ferments normal, diminished 4)ova, parasites 5)gall stones 6)total fats ....

Urinalysis: 1)albumen 2)casts 3)pus 4)sugar 5)R.B.C. 6)bile 7)cystoscopy neg. 8)acetone 9)diacetic acid.

Wasserman Reaction 1)positive 2)negative. Widal Reaction 1)positive 2)negative

Cammidge Test 1)positive 2)negative.

VI. DIAGNOSIS BEFORE OPERATION: 1)based upon History 2)upon Examinations.

1)Cholelithiasis 2)gall stones in gall bladder 3)in cystic duct 4)in common duct 5)Chr. cholecystitis 6)Chr. pancreatitis 7)Cholangitis 8)Chr. appendicitis 9)Acute appendicitis 10)Acute cholecystitis 11)Gangrenous cholecystitis 12)Ac. pancreatitis 13)Gastric ulcer 14)Duodenal ulcer 15)Perforated ulcer 16)Diffuse peritonitis 17)Acute ileus 18)Carcinoma of pancreas 19)Carcinoma of Stomach 20)Biliary fistula 21)Mucus fistula.

VII. OPERATION:

1. Findings:

Gall bladder: 1)Acutely inflamed 2)gangrenous 3)chronically inflamed 4)distended 5)collapsible 6)contracted 7)adhesions about gall bladder 8)tumor in G.B. 9)adherent to common duct 10)not collapsible 11)normal 12)perforated 13)congenitally absent

Gall stones found in 1)gall bladder 2)cystic duct 3)common duct 4)at papilla of Vater 5)rt. hepatic duct 6)left hepatic duct

Cystic duct 1)patent 2)thickened 3)dilated 4)adherent to gall bladder 5)to common duct 6)closed

Common duct 1)patent 2)thickened 3)dilated 4)cystic 5)strictured 6)hepatic duct dilated 7)closed

Bile was 1)normal 2)thick or inspissated 3)mucoid 4)purulent 5)granular

Pancreas was 1)normal 2)enlarged 3)hard 4)acutely inflamed 5)chr. inflamed 6)nodular

Liver was 1)normal 2)enlarged 3)cirrhotic 4)contained abscesses 5)perihepatitis 6)left lobe missing.

Lymph Nodes were enlarged in 1)gastro hepatic omentum 2)about cystic duct 3)common duct

Tumor Mass was made out in 1)gall bladder 2)pancreas 3)pylorus 4)liver 5)colon 6)stomach.

Biliary fistula was found between skin and 1)gall bladder 2)common duct 3)hepatic duct

Normal 1)gall bladder 2)pancreas 3)stomach 4)duodenum 5)appendix 6)liver 7)colon 8)no pathological lesion found 9)rt. kidney

Ulcer found at 1)pylorus 2)in duodenum 3)adhesions present about pylorus

Appendix was 1)normal 2)acutely inflamed 3)chr. inflamed 4)cystic 5)tuberculous 6)carcinomatous.

2. Procedure: 1)cholecystectomy 2)cholecystostomy 3)cholecystotomy 4)choledochotomy 5)choledochostomy 6)cholecystenterostomy 7)exploratory celiotomy 8)appendicectomy 9)gastro enterostomy 10)cholecyst gastrostomy 11)plastic repair of biliary ducts 12)trans duodenal choledochotomy 13)common duct explored 14)ampulla of Vater dilated 15)gall bladder sutured to parietal peritoneum

Incision made was 1)vertical rt. rectus 2)hockey stick 3)transverse 4)mid line vertical

HISTORY ANALYSIS FOR SURGICAL DISEASES OF THE BILIARY TRACT — (Continued).

Drainage used was 1) rubber tube 2) catheter 3) cigarette 4) gauze 5) rubber tissue. into the 1) gall bladder 2) common duct 3) hepatic duct 4) Morrison's pouch 5) to the pancreas

Cystic duct was 1) clamped and tied with cystic vessels 2) tied separately 3) cauterized

Anesthesia used was 1) gas ether Bennett 2) drop ether 3) gas oxygen 4) gas oxygen ether 5) chloroform 6) local Novocaine 7) local Cocaine.

VIII. Diagnosis at Operation:

1) cholelithiasis 2) gall stones in gall bladder 3) in cystic duct 4) in common duct 5) chronic cholecystitis 6) chr. pancreatitis 7) cholangitis 8) chr. appendicitis 9) acute appendicitis 10) acute cholecystitis 11) gangrenous cholecystitis 12) acute pancreatitis 13) gastric ulcer 14) duodenal ulcer 15) perforated ulcer 16) diffuse peritonitis 17) acute ileus Carcinoma of 18) gall bladder 19) pancreas 20) stomach 21) biliary fistula.

IX. Pathological Report No.:

Gross specimen consisted of 1) gall bladder 2) gall stones 3) bile 4) lymph glands; tissue from 5) gall bladder 6) stomach 7) pancreas 8) liver 9) peritoneum 10) fistula 11) appendix

Gall bladder: Color 1) normal 2) green 3) red 4) black 5) mottled

Measurements were...............c.m.

Walls were 1) normal 2) moderately thickened 3) measured......... .....4) very thick

Contained 1) bile 2) gall stones 3) mucus 4) granular material 5) pus

Adhesions around gall bladder were 1) fibrinous 2) fibrino purulent 3) old-Mucosa was 4) hypertrophied 5) atrophic 6) absent 7) necrotic

Gall stones (state number)...............1) single large cholesterin stone 2) facetted 3) mulberry 4) polygonal 5) combination stone present

Composition: 1) pure cholesterin 2) cholesterin-calcium-bilirubin 3) bile pigment

Culture of gall stone showed......... Analysis showed 1) bile salts 2) cholesterin 3) calcium.

Culture of Bile showed.........

Diagnosis: 1) cholelithiasis 2) chr. cholecystitis 3) acute cholecystitis 4) chr. pancreatitis 5) acute appendicitis 6) chr. appendicitis 7) Ca. of G.B. 8) Ca. of stomach 9) of lymph gland 10) gastric ulcer 11) duodenal ulcer 12) Ca. of pancreas 13) biliary fistula 14) fat necrosis

X. History of Postoperative Course and Condition:

1. Postoperative Course.
    1. First 24 hours: 1) nausea 2) vomiting 3) headache 4) shock 5) hemorrhage.
    2. Pulmonary: 1) pneumonia 2) pleurisy 3) bronchitis 4) empyema 5) abscess lung 6) oedema of lungs.
    3. Cardio-vascular: 1) fibrilation 2) cardiac decompensation
       3) thrombosis of 1) femoral, rt. lt. 2) internal saphenous 3) external saphenous 4) mesenteric.
       4) Embolism: 1) pulmonary 2) cerebral.
    4. Alimentary.
       1) Distention 2) acute ileus 3) acute dilatation stomach 4) colitis 5) acute cholangitis 6) bile appeared in feces on .... day.
    5. Renal:
       1) Acute suppression 2) acute retention 3) uremia 4) cystitis 5) pyelitis 6) pyelonephritis 7) acute nephritis 8) chronic nephritis.
    6. Infection of 1) operative wound 2) abdominal wall 3) peritonitis 4) residual abscess of .... 5) subphrenic abscess.
    7. Dressing: 1) Sutures removed on .... day 2) drains removed from gall bladder 3) drain removed from common duct .... day 4) drain removed from Morrison's Pouch .... day 5) drain removed from abdominal wall 6) wound closed .... day 7) bile stopped flowing from wound .... day 8) biliary fistula closed .... day.
    8. Patient discharged on .... day after operation.
    9. Result on discharge 1) cured 2) improved 3) unimproved 4) died on .... day.
2. Advice and instructions as per pamphlet 1) were given 2) were not given.
3. Follow up notes (the date of examination or report to be recorded in Chronological Table with the numbers as indicating condition at time of report).

HISTORY ANALYSIS FOR SURGICAL DISEASES OF THE BILIARY TRACT—(Continued).

1)Chief complaint cured 2)symptoms of indigestion cured 3)Strength............% 4)working capacity ....% 5)earning capacity.........% 6)weight.........lbs. Date of partially resuming work. Date of resuming full work.

7)Appetite: 1)good 2)fair 3)poor.

8)Bowels: 1)regular with artificial measures 2)without artificial measures 3)irregular with artificial measures 4)without artificial measures 5)advice given in Ward before leaving the Hospital was followed 6)advice given in Ward before leaving the Hospital was not followed 7)constipated 8)loose.

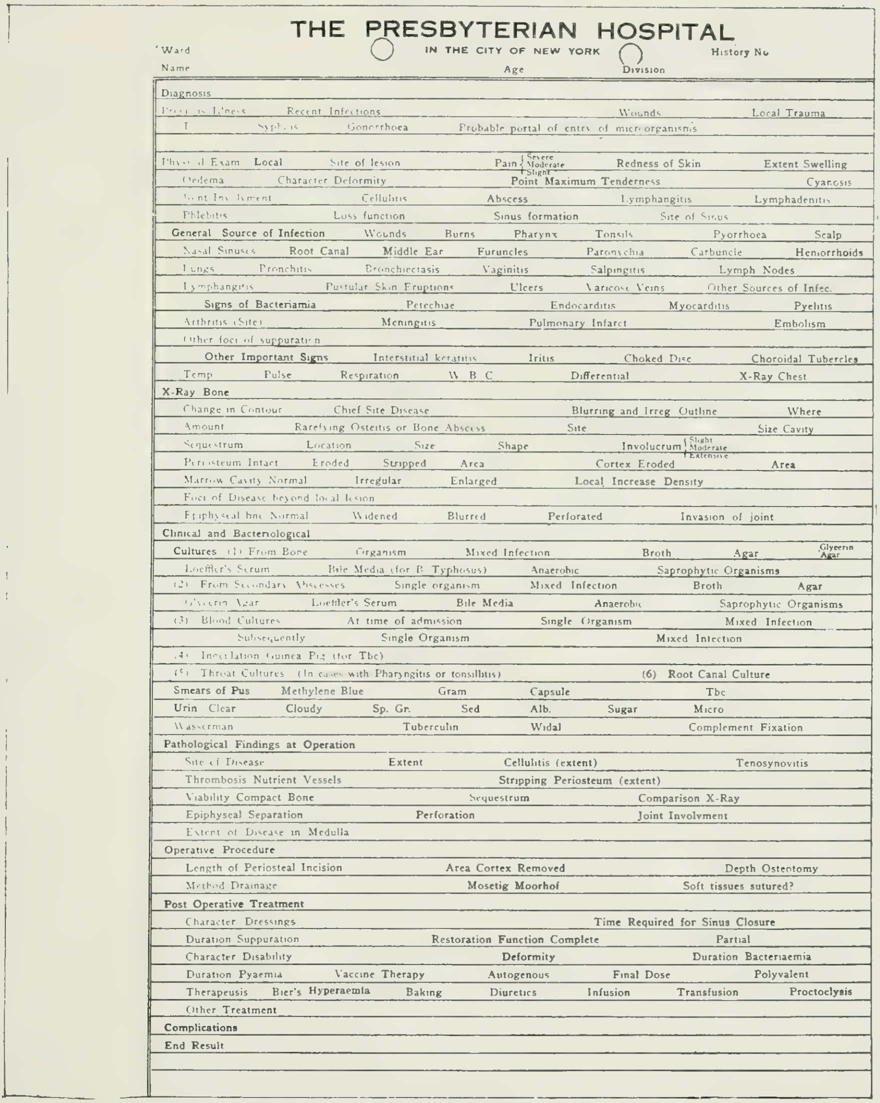
9)Examination.

1)Scar firm, no hernia 2)sinus present 3)bile discharging 4)no abdominal tenderness 5)no masses made out 6)mass felt in............7)jaundice present 8)hernia present in scar.

XI. Final Result:............months after operation 1)cured 2)improved 3)unimproved.

XII. Autopsy Findings: Details to be filed under each case if patient comes to autopsy.

HISTORY ANALYSIS FOR OSTEOMYELITIS.



THE PRESBYTERIAN HOSPITAL

Ward ○ IN THE CITY OF NEW YORK ○ History No

Name Age Division

Diagnosis

Previous Illness Recent Infections Wounds Local Trauma

T Syphilis Gonorrhoea Probable portal of entry of microorganismis

Physical Exam Local Site of lesion Pain { Severe Moderate Slight Redness of Skin Extent Swelling

Oedema Character Deformity Point Maximum Tenderness Cyanosis

Joint Involvment Cellulitis Abscess Lymphangitis Lymphadenitis

Phlebitis Loss function Sinus formation Site of Sinus

General Source of Infection Wounds Burns Pharynx Tonsils Pyorrhoea Scalp

Nasal Sinuses Root Canal Middle Ear Furuncles Paronychia Carbuncle Hemorrhoids

Lungs Bronchitis Bronchiectasis Vaginitis Salpingitis Lymph Nodes

Lymphangitis Pustular Skin Eruptions Ulcers Varicose Veins Other Sources of Infec.

Signs of Bacteriamia Petechiae Endocarditis Myocarditis Pyelitis

Arthritis (Site) Meningitis Pulmonary Infarct Embolism

Other foci of suppuration

Other Important Signs Interstitial keratitis Iritis Choked Disc Choroidal Tubercles

Temp Pulse Respiration W B C Differential X-Ray Chest

X-Ray Bone

Change in Contour Chief Site Disease Blurring and Irreg Outline Where

Amount Rarefying Osteitis or Bone Abscess Site Size Cavity

Sequestrum Location Size Shape Involucrum { Slight Moderate Extensive

Periosteum Intact Eroded Stripped Area Cortex Eroded Area

Marrow Cavity Normal Irregular Enlarged Local Increase Density

Foci of Disease beyond local lesion

Epiphyseal line Normal Widened Blurred Perforated Invasion of joint

Clinical and Bacteriological

Cultures (1) From Bone Organism Mixed Infection Broth Agar Glycerin Agar

Loeffler's Serum Bile Media (for B Typhosus) Anaerobic Saprophytic Organisms

(2) From Secondary Abscesses Single organism Mixed Infection Broth Agar

Glycerin Agar Loeffler's Serum Bile Media Anaerobic Saprophytic Organisms

(3) Blood Cultures At time of admission Single Organism Mixed Infection

Subsequently Single Organism Mixed Infection

(4) Inoculation Guinea Pig (for Tbc)

(5) Throat Cultures (In cases with Pharyngitis or tonsillitis) (6) Root Canal Culture

Smears of Pus Methylene Blue Gram Capsule Tbc

Urin Clear Cloudy Sp. Gr. Sed Alb. Sugar Micro

Wasserman Tuberculin Widal Complement Fixation

Pathological Findings at Operation

Site of Disease Extent Cellulitis (extent) Tenosynovitis

Thrombosis Nutrient Vessels Stripping Periosteum (extent)

Viability Compact Bone Sequestrum Comparison X-Ray

Epiphyseal Separation Perforation Joint Involvment

Extent of Disease in Medulla

Operative Procedure

Length of Periosteal Incision Area Cortex Removed Depth Osteotomy

Method Drainage Mosetig Moorhof Soft tissues sutured?

Post Operative Treatment

Character Dressings Time Required for Sinus Closure

Duration Suppuration Restoration Function Complete Partial

Character Disability Deformity Duration Bacteriaemia

Duration Pyaemia Vaccine Therapy Autogenous Final Dose Polyvalent

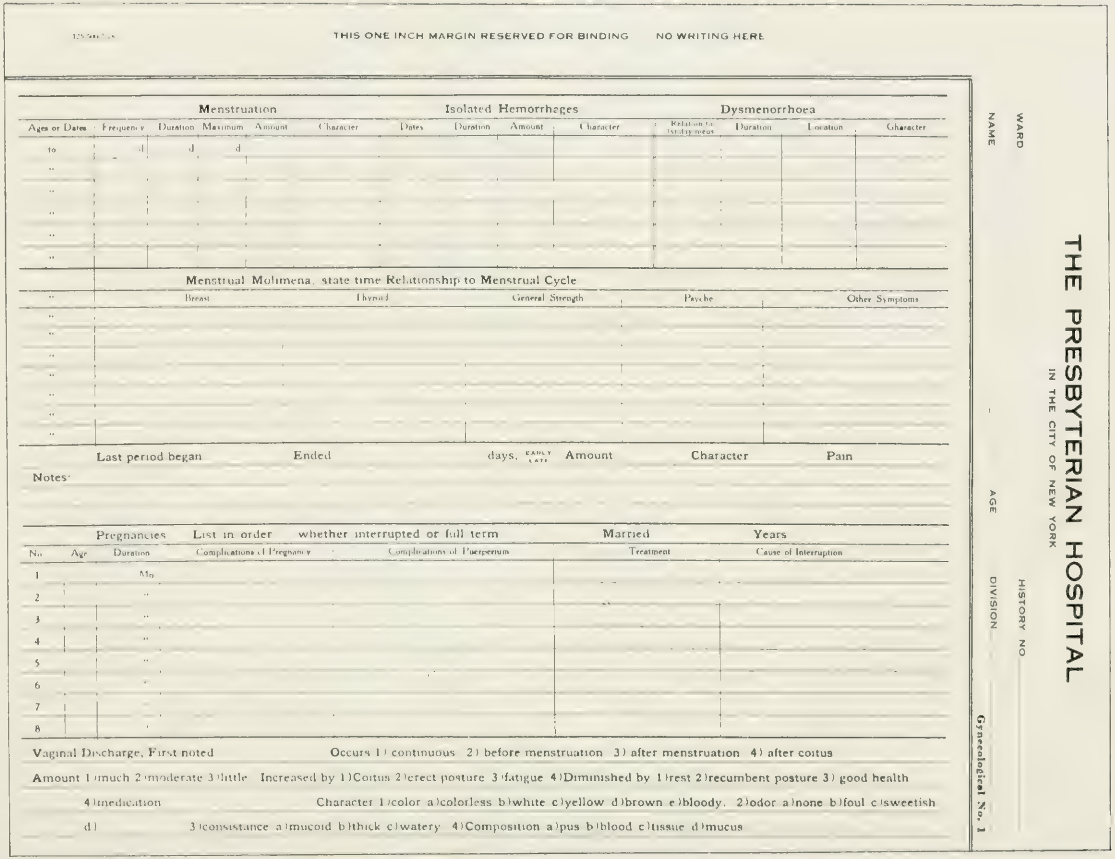
Therapeusis Bier's Hyperaemia Baking Diuretics Infusion Transfusion Proctoclysis

Other Treatment

Complications

End Result

HISTORY ANALYSIS FOR GYNECOLOGICAL CASES.



THE PRESBYTERIAN HOSPITAL
IN THE CITY OF NEW YORK

WARD HISTORY NO

NAME AGE DIVISION

Gynecological No. 1

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	Menstruation					Isolated Hemorrhages				Dysmenorrhoea			
Ages or Dates	Frequency	Duration	Maximum	Amount	Character	Dates	Duration	Amount	Character	Relation to 1st dy mens	Duration	Location	Character
to	d	d	d										
..													
..													
..													
..													
..													

Menstrual Molimena, state time Relationship to Menstrual Cycle

..	Breast	Thyroid	General Strength	Psyche	Other Symptoms
..					
..					
..					
..					
..					
..					
..					

Last period began Ended days, EARLY / LATE Amount Character Pain

Notes:

Pregnancies List in order whether interrupted or full term Married Years

No	Age	Duration	Complications of Pregnancy	Complications of Puerperium	Treatment	Cause of Interruption
1		Mo				
2		..				
3		..				
4		..				
5		..				
6		..				
7		..				
8		..				

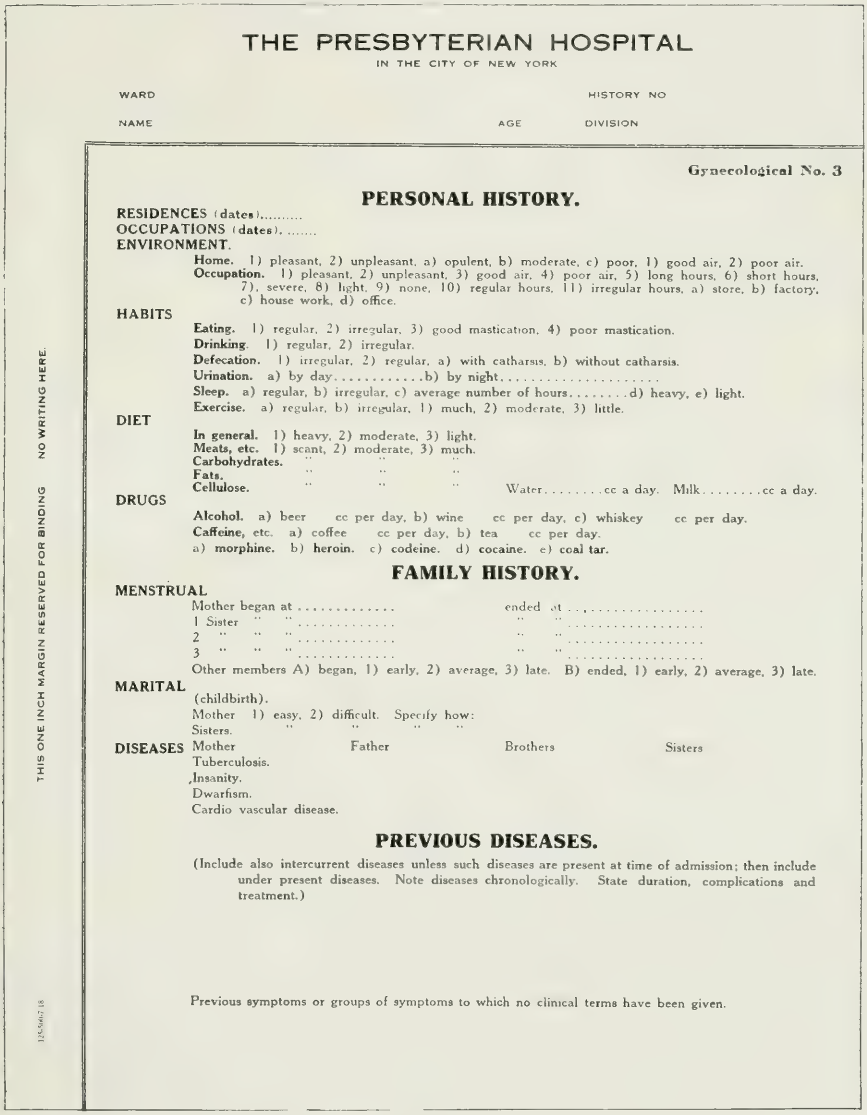
Vaginal Discharge, First noted Occurs 1) continuous 2) before menstruation 3) after menstruation 4) after coitus

Amount 1) much 2) moderate 3) little Increased by 1) Coitus 2) erect posture 3) fatigue 4) Diminished by 1) rest 2) recumbent posture 3) good health

4) medication Character 1) color a) colorless b) white c) yellow d) brown e) bloody. 2) odor a) none b) foul c) sweetish

d) 3) consistance a) mucoid b) thick c) watery 4) Composition a) pus b) blood c) tissue d) mucus

HISTORY ANALYSIS FOR GYNECOLOGICAL CASES—Continued.



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THE PRESBYTERIAN HOSPITAL

IN THE CITY OF NEW YORK

WARD HISTORY NO

NAME AGE DIVISION

Gynecological No. 3

PERSONAL HISTORY.

RESIDENCES (dates)..........

OCCUPATIONS (dates). ....

ENVIRONMENT.

Home. 1) pleasant, 2) unpleasant, a) opulent, b) moderate, c) poor, 1) good air, 2) poor air.

Occupation. 1) pleasant, 2) unpleasant, 3) good air, 4) poor air, 5) long hours, 6) short hours, 7), severe, 8) light, 9) none, 10) regular hours, 11) irregular hours, a) store, b) factory, c) house work, d) office.

HABITS

Eating. 1) regular, 2) irregular, 3) good mastication, 4) poor mastication.

Drinking. 1) regular, 2) irregular.

Defecation. 1) irregular, 2) regular, a) with catharsis, b) without catharsis.

Urination. a) by day............b) by night.......................

Sleep. a) regular, b) irregular, c) average number of hours........d) heavy, e) light.

Exercise. a) regular, b) irregular, 1) much, 2) moderate, 3) little.

DIET

In general. 1) heavy, 2) moderate, 3) light.

Meats, etc. 1) scant, 2) moderate, 3) much.

Carbohydrates. " " "

Fats. " " "

Cellulose. " " " Water........cc a day. Milk........cc a day.

DRUGS

Alcohol. a) beer cc per day, b) wine cc per day, c) whiskey cc per day.

Caffeine, etc. a) coffee cc per day, b) tea cc per day.

a) **morphine.** b) **heroin.** c) **codeine.** d) **cocaine.** e) **coal tar.**

FAMILY HISTORY.

MENSTRUAL

Mother began at .... ended at ....

1 Sister " "............. " "..................

2 " " "............. " "..................

3 " " "............. " "..................

Other members A) began, 1) early, 2) average, 3) late. B) ended, 1) early, 2) average, 3) late.

MARITAL

(childbirth).

Mother 1) easy, 2) difficult. Specify how:

Sisters. " " " "

DISEASES	Mother	Father	Brothers	Sisters
	Tuberculosis.			
	Insanity.			
	Dwarfism.			
	Cardio vascular disease.			

PREVIOUS DISEASES.

(Include also intercurrent diseases unless such diseases are present at time of admission; then include under present diseases. Note diseases chronologically. State duration, complications and treatment.)

Previous symptoms or groups of symptoms to which no clinical terms have been given.

125-5M-7 18

HISTORY ANALYSIS FOR GYNECOLOGICAL CASES—Continued.

Gynecological No. 4

PRESENT ILLNESSES.

CAME FOR RELIEF OF:-

(Include **all** symptoms present on admission, or which have occurred during the most recent attack and state duration of each symptom, or if not present on admission, state when they did occur, referring everything to the date of admission to hospital.

A..................in........................for..................
1) **Pain:** B.................."........................"..................
C.................."........................"..................

2) **Other Sensory disturbances:**
A.................."........................"..................
B.................."........................"..................
C.................."........................"..................

3) **Tenderness:**..................
4) **Constitutional:** Loss of weight................loss of strength................loss of appetite............ fever............chills............malaise............
5) **Deformity or mass:** Swelling of feet, a) right, b) left............Abdomen............ Perineum..................................
6) **Alimentary system:** Nausea............vomiting............eructations............ salivation............borborygma............constipation............ diarrhoea................rectal discharge............Dysphagia............
7) **Cardio vascular:** Palpitation of heart................throbbing pulses................ hemorrhages from..................................
8) **Central Nervous:** Syncope................loss of memory................loss of emotional control..................................
9) **Muscular System:** Tremor in............for............convulsions, a) general, b) localized to.........for.........cramps in.........for......... Paralysis of..............for..............a) partial, b) complete.
10) **Reproductive System:** Sterility..............amenorrhoea..............menorrhagia ....dysmenorrhoea..............vaginal discharge..............
11) **Respiratory:** dyspnoea..............cough..............sputum..............
12) **Urinary system:** anuria..........polyuria..........frequent micturition.......... painful micturition..............lack of urinary control.............. hematuria..............pyuria..............passage of concretion..........
13) **Tegmentary:** Jaundice..............eruption..............sweating..............
14) **Osseous system:**
15) **Eye**..............**Ear**..............**Smell**..............**Taste**..

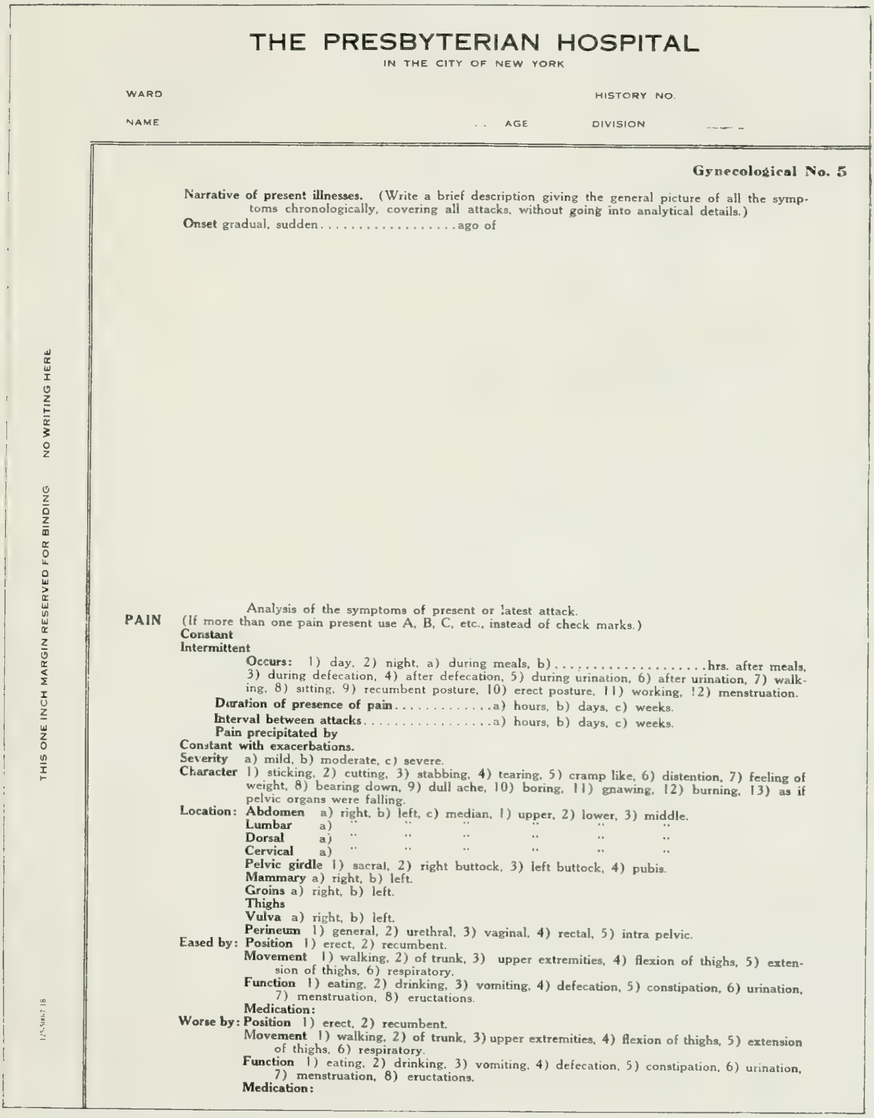
TYPE OF CLINICAL PICTURE:- (indicate whether)

a) acute, b) chronic.
1) progressive or uniform course.
2) progressive with exacerbations.
3) history of attacks with free intervals. (First attack..........last..........
4) history of attacks with symptoms during intervals. (Interval between attacks..............
(No. of attacks..........

CIRCUMSTANCES ATTENDING OR IMMEDIATELY PRECEDING ONSET.

1) **eating,** 2) **defecation,** 3) **urination,** 4) **menstruation,** a) before, b) during, c) after
Menstrual period................days, a) early, b) late, 1) scant, 2) profuse, 3) skipped
Childbirth 1 2 3 4 5 6 7 8.
At................month of pregnancy.
After childbirth ( ) a) days, b) weeks, c) months
Injury:
Change of residence, a) local, b) national.
" " **occupation.**
" " **social condition,** 1) marriage, 2) separation.
Specify:..................

HISTORY ANALYSIS FOR GYNECOLOGICAL CASES—Continued.



THE PRESBYTERIAN HOSPITAL
IN THE CITY OF NEW YORK

WARD HISTORY NO.

NAME . . AGE DIVISION

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12-5,500-7 18

Gynecological No. 5

Narrative of present illnesses. (Write a brief description giving the general picture of all the symptoms chronologically, covering all attacks, without going into analytical details.)

Onset gradual, sudden . . . . ago of

Analysis of the symptoms of present or latest attack.

PAIN (If more than one pain present use A, B, C, etc., instead of check marks.)

Constant

Intermittent

Occurs: 1) day, 2) night, a) during meals, b) . . . . hrs. after meals, 3) during defecation, 4) after defecation, 5) during urination, 6) after urination, 7) walking, 8) sitting, 9) recumbent posture, 10) erect posture, 11) working, 12) menstruation.

Duration of presence of pain . . . . a) hours, b) days, c) weeks.

Interval between attacks . . . . a) hours, b) days, c) weeks.

Pain precipitated by

Constant with exacerbations.

Severity a) mild, b) moderate, c) severe.

Character 1) sticking, 2) cutting, 3) stabbing, 4) tearing, 5) cramp like, 6) distention, 7) feeling of weight, 8) bearing down, 9) dull ache, 10) boring, 11) gnawing, 12) burning, 13) as if pelvic organs were falling.

Location: **Abdomen** a) right, b) left, c) median, 1) upper, 2) lower, 3) middle.
Lumbar a) " " " " " "
Dorsal a) " " " " " "
Cervical a) " " " " " "
Pelvic girdle 1) sacral, 2) right buttock, 3) left buttock, 4) pubis.
Mammary a) right, b) left.
Groins a) right, b) left.
Thighs
Vulva a) right, b) left.
Perineum 1) general, 2) urethral, 3) vaginal, 4) rectal, 5) intra pelvic.

Eased by: **Position** 1) erect, 2) recumbent.
Movement 1) walking, 2) of trunk, 3) upper extremities, 4) flexion of thighs, 5) extension of thighs, 6) respiratory.
Function 1) eating, 2) drinking, 3) vomiting, 4) defecation, 5) constipation, 6) urination, 7) menstruation, 8) eructations.
Medication:

Worse by: **Position** 1) erect, 2) recumbent.
Movement 1) walking, 2) of trunk, 3) upper extremities, 4) flexion of thighs, 5) extension of thighs, 6) respiratory.
Function 1) eating, 2) drinking, 3) vomiting, 4) defecation, 5) constipation, 6) urination, 7) menstruation, 8) eructations.
Medication:

HISTORY ANALYSIS FOR GYNECOLOGICAL CASES—Continued.

Gynecological No. 6

Radiates to: Abdomen a) right, b) left, c) median, 1) upper, 2) lower, 3) middle.
Lumbar a) " b) " c) " 1) " 2) " 3) "
Dorsal a) " b) " c) " 1) " 2) " 3) "
Cervical a) " b) " c) " 1) " 2) " 3) "
Pelvic girdle 1) sacral, 2) right buttock, 3) left buttock, 4) pubis.
Mammary a) right, b) left.
Groins a) right, b) left.
Thighs a) right, b) left, 1) anterior, 2)posterior, 3) median, 4) lateral
Vulva a) right, b) left.
Perineum 1) general, 2) urethral, 3) vaginal, 4) rectal, 5) intra pelvic.
Character of radiated pain.

TENDERNESS:
Location. Abdomen a) right, b) left, c) median, 1)upper, 2) lower, 3) middle.
Perineum
Extent 1) localized, 2) diffuse.
Degree 1) mild, 2) severe.

CONSTITUTIONAL SYMPTOMS:
Weight a) stationary, b) gained, c) lost..........lbs. in..........x) days, y) weeks, z) mos
Strength a) " " " ....% in..........x) " y) " z) "
Appetite a) " " " d) capricious.
Fever 1) continuous, 2) intermittent, a) mild, b) severe.
Chills 1) chilly sensations, 2) goose flesh, 3) rigor, a) mild, b) severe.
Frequency a) continuous, b) intermittent every............day.
Occurrence 1) morning, 2) night, 3) afternoon, 4) irregular.
Duration..............a) minutes, b) hours.

DEFORMITY:
Variety 1) diffuse swelling, 2) localized swelling or tumor, 3) specify:
Location A Abdomen, a) right, b) left, c) median, 1) upper, 2) lower, 3) middle
B Perineum, a) b) c) d) in vagina.
C Vulva a) b).
Shape 1) rounded, 2) nodular.
Surface 1) smooth, 2) rough.
Consistence 1) soft, 2) firm, 3) hard.
Sensation 1) none, 2) tender.
Pulsation 1) felt, 2) seen.
Size when first noticed..........cm. in diameter.
Growth 1) stationary, 2) progressive, 3) variable.
Size increased by:
Posture 1) recumbent, 2) erect.
Increased abdominal pressure, 1) straining, 2) coughing, 3) work
Size diminished by:
Posture 1) recumbent, 2) erect.
Overlying skin when discovered, 1) loose, 2) attached.
Subsequent changes:
Subcutaneous veins when discovered, 1) normal, 2) dilated.
Subsequent changes:

SYMPTOMS REFERRABLE TO SPECIAL BODY SYSTEMS.

If a system gives no symptoms mark "O".

ALIMENTARY SYSTEM.

APPETITE 1) good, 2) fair, 3) poor, 4) capricious.
NAUSEA **First occurred**............Last occurred............
Frequency................per a) day, b) week, c) month.
Occurrence.
1) Independent of functions, symptoms, etc.
2) Time of day 1) early morning, 2) day, 3) night.
3) Posture 1) when erect, 2) when prone.
4) Eating a) before, b) during, c)....................after.
5) Defecation " " c).................... "
6) Urination " " c).................... "
7) Menstruation (see menstrual chart).
8) Symptoms.
1) Pain a)..................hrs. after onset of pain.
2)
3)

HISTORY ANALYSIS FOR GYNECOLOGICAL CASES—Continued.

THE PRESBYTERIAN HOSPITAL
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NAME AGE DIVISION

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Gynecological No. 7

VOMITING.

First attack.............Last attack.............
Frequency...............times a) day, b) week, c) month.

Occurrence.
1) Independent of functions, symptoms, time of day, etc
2) Time of day 1) early morning, 2) day, 3) night.
3) Posture 1) when erect, 2) when prone, 3) upon arising.
4) Eating a) before, b) during, c)....................after.
5) Defecation " " .... "
6) Urination " " .... "
7) Menstruation (see menstrual chart)
8) Symptoms.
1) Pain a)................hrs. after onset of pain.
2)
3)

Effect on symptoms:
1) Pain 1) unaffected, 2) relieved, 3) made worse.
2)
3)

Character of Act. 1) usual, 2) projectile, 3) regurgitant.

Vomitus.
Amount at each act..............cc.
Odor 1) none, 2) sour, 3) foul, 4) fecal.
Taste 1) bitter, 2) acid, 3) fecal.
Consistence 1) watery, 2) thick.
Composition.
Food.
1) recently digested, 2) more than 24 hrs. old. Article noticed.... .....
Bile 1) slight, 2) much
Mucus 1) " 2) "
Pus 1) " 2) "
Blood 1) " 2) " a) recent, b) old (coffee ground).
A. mixed. B. Streaked.

DYSPHAGIA

ERUCTATIONS. REGURGITATIONS.
Frequency.
Occurrence.
Effect on symptoms.
1) Pain: 1) unaffected, 2) made worse, 3) relieved.
2)
Composition. 1) air, 2) sour liquid, 3)

SALIVATION.

INTESTINAL MOVEMENTS. 1) heard, 2) felt, 3) visible peristalsis.

DEFECATION.
Frequency...........every a) day, b) week, x) with catharsis, y) without catharsis
Character of act 1) complete, 2) incomplete.
Control 1) complete, 2) partial, 3) lost, a) at beginning, b) during, c) after defecation.
Sensation.
Character 1) burning, 2) sharp, 3) dull, 4) tensemus, 5) pruritus.
Severity a) mild, b) severe.
Occurrence 1) at beginning of act, 2) during act, 3) at end, lasting..................
Stool. Amount...........gms. (est) in 24 hours............gms. (est) at each act.
Consistence 1) fluid, 2) soft, 3) formed, 4) hard.
Diameter................cm.
Shape 1) scybala, 2) cylindrical, 3) ribbon.
Color 1) clay, 2) yellow, 3) brown, 4) black.
Composition
1) undigested food, 2) concretions, 3) foreign body, 4) parasites.
Mucus a) much, b) little, 1 mixed with feces, 2) on surface of feces
Pus " " " " "
Blood " " " " "

HISTORY ANALYSIS FOR GYNECOLOGICAL CASES—Continued.

Gynecological No. 8

Discharge from rectum: Amount 1) much, 2) moderate, 3) scant.
Occurrences 1) irregular, 2) continuous, 3) after defecation.
Odor 1) fecal, 2) none, 3) foul.
Consistence 1) watery, 2) mucoid, 3) thick.
Composition 1) pus, 2) blood, 3) mucus, 4) tissue
Mixed with feces. **On surface of stool.**

JAUNDICE. 1) skin, 2) sclera, 3) urine, 4) clay colored stool, 5) pruritus, 6) hemorrhages.

URINARY SYSTEM.

FREQUENCY.
1) a) . ...by day, b)............by night.
2) **Increased by.**
    1) **Posture,** a) erect, b) recumbent, 2) **Diet,** 3) **Phychic**..... ..... . 4) **Weather.** a) cold, b) wet.
    5) **Treatment:**
    6) **Symptoms:** 1) mass in vaginal outlet, 2)
    7) **Functions:**
3) **Diminished by:**
    1) **Posture,** a) erect, b) recumbent, 2) diet, 3) phychic ....4) weather.
    5) **Treatment:**
        1) general, 1) drugs:
        2) local, heat, cold, application of......................pessary.
    6) **Symptoms:** 1) disappearance of mass from vaginal orifice, 2)
    7) **Functions:**

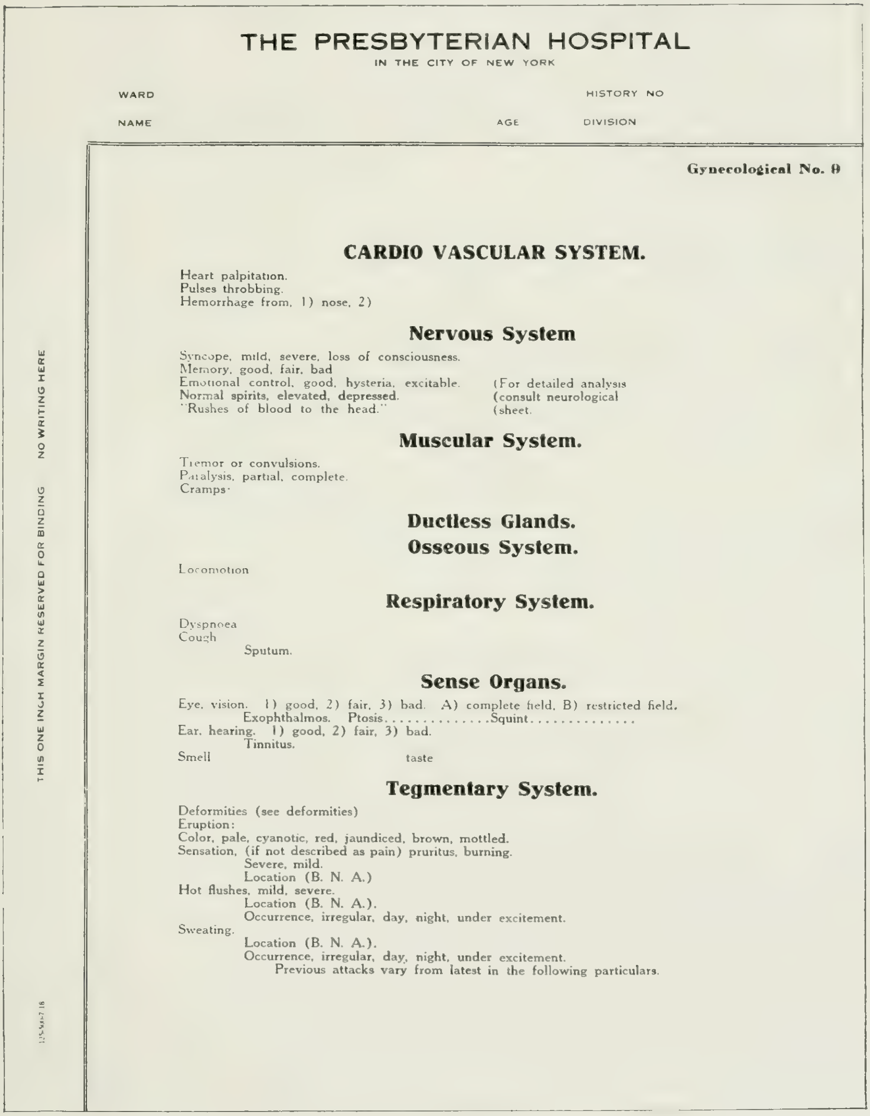
CONTROL.
1) **At beginning** of act, 1) difficulty in starting stream, 2) difficulty in preventing stream (urgency), 3) complete control.
2) **During act,** 1) sudden stoppage (ball valve), 2) complete control.
3) **At end** of act, 1) complete, 2) incomplete (dribbling).
4) **Between** acts, 1) complete, 2) incomplete, (dribbling), 3) absent.
5) **Circumstances affecting Control.**

SENSATIONS.
1) **Character,** 1) burning, 2) stinging, 3) sharp lancinating, 4) dull, 5) cramp like, 6) desire to urinate, 7) urgency, 8) strangury.
2) **Severity,** 1) mild, 2) severe.
3) **Location,** 1) urethral orifice, 2) perineum, 3) rectal, 4) hypogastric, 5) inguinal R. L., 6) Lumbar, R. L.
4) **Occurrence,** 1) at beginning, 2) during, 3) at end of micturition, lasting.....................
5) **Worse by:** 1) position, 1) erect, 2) recumbent, 3)................ ....
    2) Menstruation.
    3) Character of urine..
    4) Treatment
6) **Eased by:** 1) position, 1) erect, 2) recumbent, 3)..................................
    2) Menstruation.
    3) Character of urine..
    4) Treatment.
        1) general.
        2) local, heat, cold, pessary.......... ....
7) **Accompanied by** 1) passage of blood, 2) tissue, 3) gravel.

AMOUNT OF URINE. a) at each act cc., b) in twenty-four hours cc.
Intermittent polyria with, a) anuria for days, b) polyria for c) amount cc

CHARACTER OF URINE.
1) **color,** 1) bloody, 2) watery, 3) yellow, 4) brown, 5) amber.
2) **sediment,** 1) much, 2) little, a) red, b) white, c) yellow.
3) **transparency,** 1) clear, 2) watery.
4) **composition** 1) mucus, a) much, b) little.
    2) pus, a) much, b) little, 1) at beginning, 2) during, 3) at end.
    3) blood, a) much, b) little, 1) at beginning, 2) during, 3) at end.
        A) mixed, B) separate, C) clotted.

HISTORY ANALYSIS FOR GYNECOLOGICAL CASES—Continued.



THE PRESBYTERIAN HOSPITAL

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Gynecological No. 9

CARDIO VASCULAR SYSTEM.

Heart palpitation.
Pulses throbbing.
Hemorrhage from, 1) nose, 2)

Nervous System

Syncope, mild, severe, loss of consciousness.
Memory, good, fair, bad
Emotional control, good, hysteria, excitable.
Normal spirits, elevated, depressed.
"Rushes of blood to the head."

(For detailed analysis
(consult neurological
(sheet.

Muscular System.

Tremor or convulsions.
Paralysis, partial, complete.
Cramps.

Ductless Glands.

Osseous System.

Locomotion

Respiratory System.

Dyspnoea
Cough
Sputum.

Sense Organs.

Eye, vision. 1) good, 2) fair, 3) bad. A) complete field, B) restricted field.
Exophthalmos. Ptosis..............Squint..............
Ear, hearing. 1) good, 2) fair, 3) bad.
Tinnitus.
Smell taste

Tegmentary System.

Deformities (see deformities)
Eruption:
Color, pale, cyanotic, red, jaundiced, brown, mottled.
Sensation, (if not described as pain) pruritus, burning.
Severe, mild.
Location (B. N. A.)
Hot flushes, mild, severe.
Location (B. N. A.).
Occurrence, irregular, day, night, under excitement.
Sweating.
Location (B. N. A.).
Occurrence, irregular, day, night, under excitement.
Previous attacks vary from latest in the following particulars.

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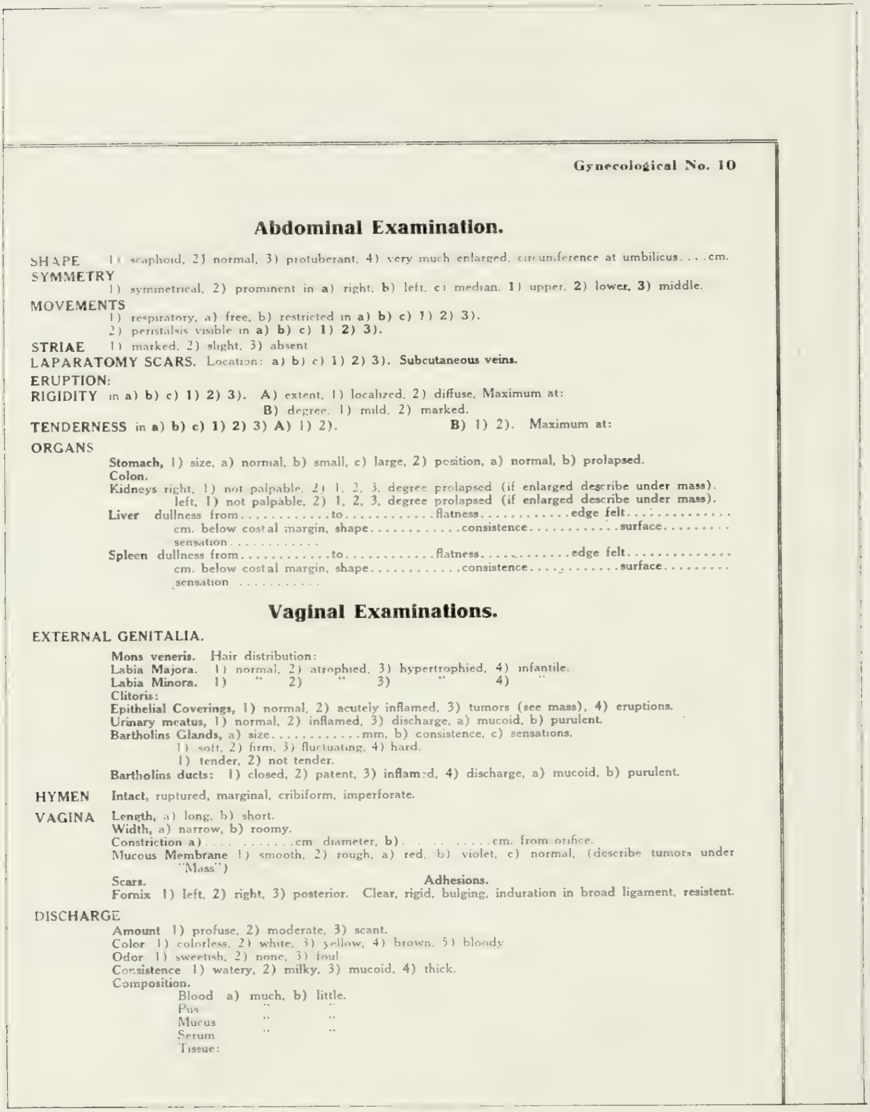
HISTORY ANALYSIS FOR GYNECOLOGICAL CASES—Continued.



Gynecological No. 10

Abdominal Examination.

SHAPE 1) scaphoid, 2) normal, 3) protuberant, 4) very much enlarged, circumference at umbilicus. . . .cm.
SYMMETRY
1) symmetrical, 2) prominent in **a)** right, **b)** left, c) median. **1)** upper, **2)** lower, **3)** middle.
MOVEMENTS
1) respiratory, a) free, b) restricted in **a) b) c)** 1) 2) 3).
2) peristalsis visible in **a) b) c) 1) 2) 3).**
STRIAE 1) marked, 2) slight, 3) absent
LAPARATOMY SCARS. Location: a) b) c) 1) 2) 3). **Subcutaneous veins.**
ERUPTION:
RIGIDITY in **a) b) c) 1) 2) 3).** A) extent, 1) localized, 2) diffuse, Maximum at:
B) degree, 1) mild, 2) marked.
TENDERNESS in **a) b) c) 1) 2)** 3) A) 1) 2). **B)** 1) 2). Maximum at:
ORGANS
Stomach, 1) size, a) normal, b) small, c) large, 2) position, a) normal, b) prolapsed.
Colon.
Kidneys right, 1) not palpable, 2) 1, 2, 3, degree prolapsed (if enlarged describe under mass).
left, 1) not palpable, 2) 1, 2, 3, degree prolapsed (if enlarged describe under mass).
Liver dullness from. . . . . .to. . . . . .flatness. . . . . .edge felt. . . . .
cm. below costal margin, shape. . . . . .consistence. . . . . .surface. . . . .
sensation . . . .
Spleen dullness from. . . . . .to. . . . . .flatness. . . . . .edge felt. . . . .
cm. below costal margin, shape. . . . . .consistence. . . . . .surface. . . . .
sensation . . . .

Vaginal Examinations.

EXTERNAL GENITALIA.
Mons veneris. Hair distribution:
Labia Majora. 1) normal, 2) atrophied, 3) hypertrophied, 4) infantile.
Labia Minora. 1) " 2) " 3) " 4) "
Clitoris:
Epithelial Coverings, 1) normal, 2) acutely inflamed, 3) tumors (see mass), 4) eruptions.
Urinary meatus, 1) normal, 2) inflamed, 3) discharge, a) mucoid, b) purulent.
Bartholins Glands, a) size. . . . . .mm, b) consistence, c) sensations.
1) soft, 2) firm, 3) fluctuating, 4) hard.
1) tender, 2) not tender.
Bartholins ducts: 1) closed, 2) patent, 3) inflamed, 4) discharge, a) mucoid, b) purulent.

HYMEN **Intact,** ruptured, marginal, cribiform, imperforate.

VAGINA **Length,** a) long, b) short.
Width, a) narrow, b) roomy.
Constriction a). . . . . .cm diameter, **b)**. . . . . .cm. from orifice.
Mucous Membrane 1) smooth, 2) rough, a) red, b) violet, c) normal, (describe tumors under "Mass")
Scars. **Adhesions.**
Fornix 1) left, 2) right, 3) posterior. Clear, rigid, bulging, induration in broad ligament, resistent.

DISCHARGE
Amount 1) profuse, 2) moderate, 3) scant.
Color 1) colorless, 2) white, 3) yellow, 4) brown, 5) bloody
Odor 1) sweetish, 2) none, 3) foul
Consistence 1) watery, 2) milky, 3) mucoid, 4) thick.
Composition.
Blood a) much, b) little.
Pus " "
Mucus " "
Serum " "
Tissue:

HISTORY ANALYSIS FOR GYNECOLOGICAL CASES—Continued.

THE PRESBYTERIAN HOSPITAL

IN THE CITY OF NEW YORK

WARD　　　　HISTORY NO.

NAME　　　　AGE　　　　DIVISION

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Gynecological No. 11

PELVIC FLOORS AND SUPPORTS.

Perineum as a whole. 1) thick, 2) thin, 3) firm, 4) lax.
Vaginal orifice admits. . . . . .fingers with ease.
Levators 1) thick, 2) thin, 3) firm, 4) flaccid. A) Lacerated, a) slight, b) deep. X) median, Y) left, Z) right, B) Retracted, a) b) X) Y) Z).
Spincter ani. 1) intact, 2) lacerated, a) partial, b) complete.
Posterior vaginal wall. 1) normal, 2) bulges, a) slightly, b) moderated, c) severely. X) low, Y) high.
Anterior walls. 1) 2) a) b) c). X) Y).

UTERUS AS A WHOLE **Position** 1) complete prolapse, 2) partial prolapse, 3) right, 4) left, 5) anterior, 6) posterior, 7) high, 8) low, 9) mid-pelvis.
Axis of uterus. a) normal, b) retroverted, 1) vaginal axis, 2) promentory of sacrum, 3) cul-de-sac, c) lateroverted, 1) left, 2) right.
Mobility. A) freely movable, B) fixed, a) lightly, b) rigidly, 1) anteriorly, 2) posteriorly, 3) to left, 4) to right.

RELATION OF CERVIX TO REST OF UTERUS.

Anteflexion 1) slight, 2) moderate, 3) severe
Lateroflexion " " "
Retroflexion " " "

CERVIX UTERI.

Position 1) anterior, 2) posterior, 3) right, 4) left.
Direction 1) " " "
Size a). . . . . .cm. long, b). . . . . .cm. in diameter.
Shape 1) conical, 2) nodular, 3) cylindrical, 4) flat
Consistence 1) normal, 2) hard, 3) soft, 4) variable.
Lacerations 1) unilateral, 2) bilateral, 3) stellate, a) limited to cervix, b) extending into vagina, x) shallow, y) deep.
Erosions a) anterior, b) posterior, c) circular. . . . . .cm. wide.
External os 1) small, 2) large, a) patulous.
Nabothian cysts.

FUNDUS AND BODY.

Position 1) normal, 2) vaginal axis, 3) in cul-de-sac.
Size a). . . . . .antero-posterior, b). . . . . .cm. lateral.
Shape a) pyriform, b) globular, c) lobulated.
Surface a) smooth, b) nodular, 1) fine, 2) coarse.
Consistence 1) hard, 2) firm, 3) soft, 4) elastic, 5) variable.
Sensation 1) normal, 2) tender.

SIGNS OF PREGNANCY.

Face: brown pigmentation.
Breasts: 1) size, a) unchanged, b) increased, 2) consistence, a) unchanged, b) firmer, 3) tenderness 4) secretion from nipple, 5) darkened areola, 6) enlarged Montgomery's glands.
Abdomen: Linea nigra present.
Vaginal Examination: 1) purpling of mucous membranes, 2) soft large cervix, 3) Hegar, 4) Ballottment.
Gait waddling.　　　　**Fetal Heart Sounds.**

MASS

(To be used for any mass in abdomen or pelvis which cannot be identified as an organ.)

POSITION.

Abdomen a) right, b) left, c) median, 1) upper, 2) lower.
Pelvis a) right, b) left, c) median, 1) high, 2) low, 1) anterior, 2) posterior.
Abdomino-pelvic **a)** lower limit, 1) lavator ani, 2) level of cervix, 3) high in pelvis, **b)** upper limit. . . . . .cm. above symphasis.
Perineum **1)** vulva, a) right, b) left. **2)** urethral orifice, **3)** perineal body, **4)** protruding from vagina.
Vaginal Wall 1) anterior, 2) posterior, 3) left, 4) right. a). . . . . .cm. from orifice.
Ischio rectal region 1) right, 2) left.
Anus. 1) multiple, 2) right, 3) left, 4) anterior, 5) posterior.

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HISTORY ANALYSIS FOR GYNECOLOGICAL CASES—Continued.

Gynecological No. 12

SIZE a) vertical ....cm., b) anterio-posterior............cm., lateral............cm.

SHAPE a) spheroid, b) ovoid, c) pyriform, d) nodular, e) lobulated. 1) coarse, 2) fine.
A) circumscribed and well outlined, B) diffuse or poorly outlined.

SURFACE 1) smooth, 2) nodular, a) fine, b) coarse.

SENSATION 1) tender.

CONSISTENCE 1) firm, 2) soft, 3) fluctuating, 4) variable, a) firm with soft areas, b) soft with firm areas, 5) hard.

PULSATION 1) expansile, 2) transmitted. Bruit 1) continuous, 2) synchronous with pulse.

AUSCULTATION

RELATION TO SURROUNDING STRUCTURES.

To uterus: **1)** independent of, **2)** loosely attached to, **3)** intimately attached to, **4)** indistinguishable from attachment, being a) sessile, b) pedunculated, c) separated by sharp notch, from the cervix, d) from fundus. A) right fornix, B) left fornix, C) anterior, D) posterior fornix, **5)** protruding from cervix.
To pelvic wall: **1)** firmly attached, **2)** loosely attached to the a) right, b) left, c) anterior, d) posterior.
To levator ani 1) deep to, 2) superficial to.
To rectum 1) independent of, 2) loosely attached, 3) intimately attached on right, left, anterior, posterior wall. A) projecting into.
To bladder
To colon; Caecum............ascending colon...........traverse colon............descending colon............sigmoid.
To stomach
To kidneys right.....................left... .. ..
To liver
To anterior abdominal wall
To posterior abdominal wall.

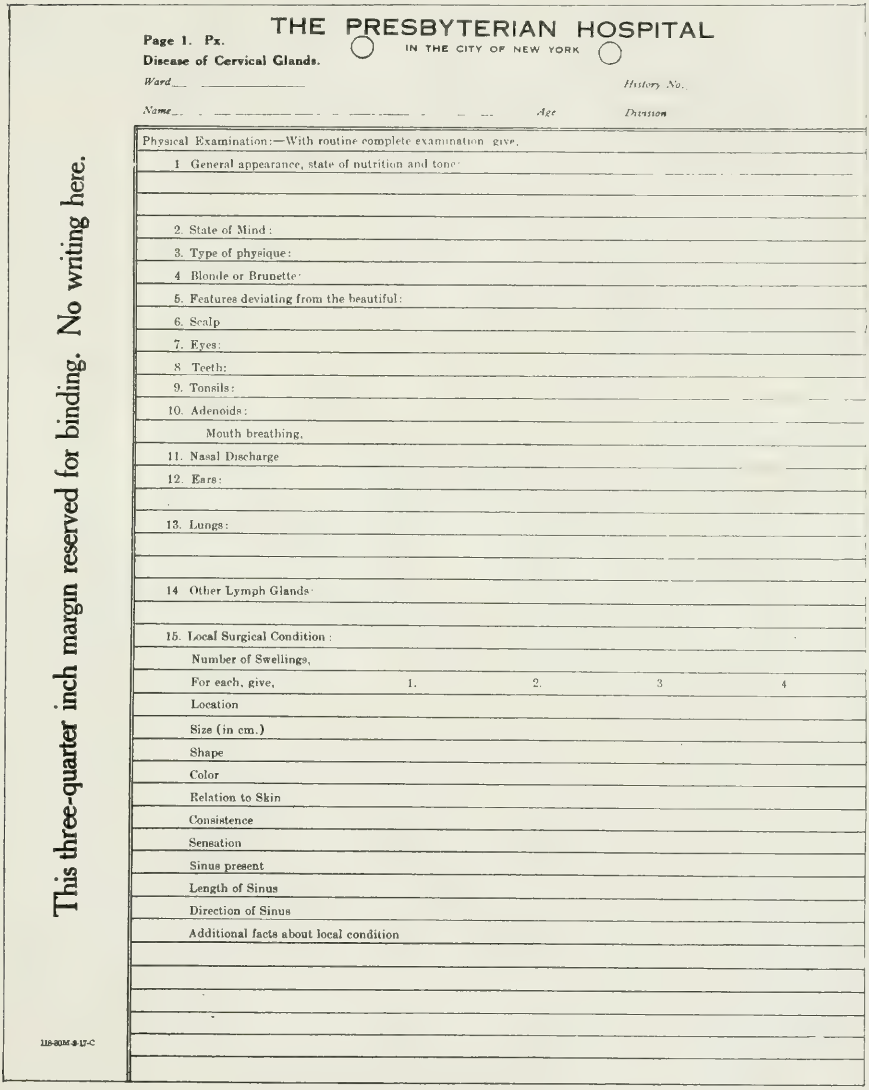
CONDITION OF OVERLYING STRUCTURES.

Skin 1) normal, 2) red, 3) bluish, 4) abscess pointing, 5) discharging opening, 6) transparent or thinned.
Veins 1) normal, 2) enlarged.
Subcutaneous tissue 1) infiltrated, 2) freely movable.

ULCERATION.

Position.
Shape 1) round, 2) oval, 3) quadrilateral, 4) irregular.
Size..............cm. by..............cm.
Depth 1) flat, 2) shallow, 3) deep, 4) raised.
Edge Everted, Raised, Flat, Undermined, Hard, Soft, Smooth, Ragged, Well defined, Infiltrating.
Base smooth. 1) nodular, 2) cauliflower, 3) friable. Bleeds easily. Sharply limited, infiltrating fixed.

HISTORY ANALYSIS FOR DISEASE OF CERVICAL GLANDS.



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Page 1. Px.
Disease of Cervical Glands.

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Ward
History No.
Name
Age
Division

Physical Examination:—With routine complete examination give,

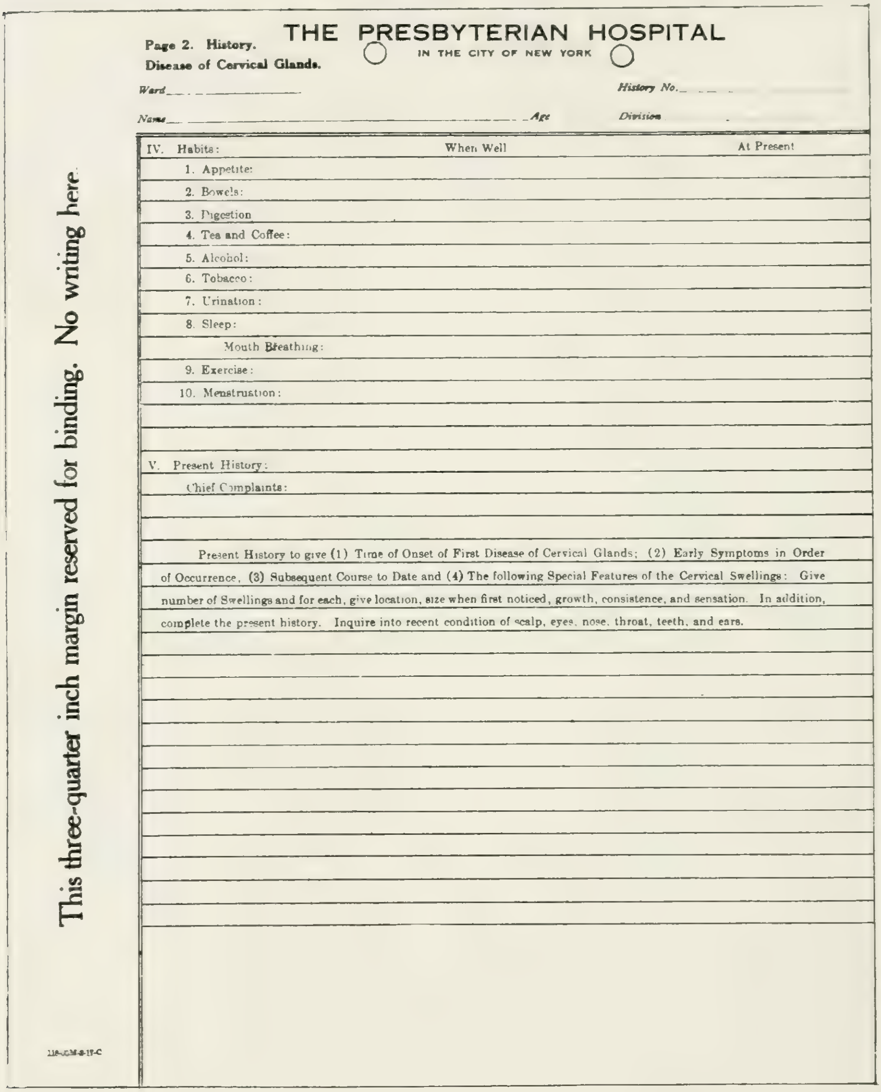
1. General appearance, state of nutrition and tone:
2. State of Mind:
3. Type of physique:
4. Blonde or Brunette:
5. Features deviating from the beautiful:
6. Scalp
7. Eyes:
8. Teeth:
9. Tonsils:
10. Adenoids:
    Mouth breathing,
11. Nasal Discharge
12. Ears:
13. Lungs:
14. Other Lymph Glands:
15. Local Surgical Condition:
    Number of Swellings,

For each, give,	1.	2.	3	4
Location				
Size (in cm.)				
Shape				
Color				
Relation to Skin				
Consistence				
Sensation				
Sinus present				
Length of Sinus				
Direction of Sinus				

Additional facts about local condition

118-80M-8-17-C

HISTORY ANALYSIS FOR DISEASE OF CERVICAL GLANDS—(Continued).



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Page 2. History.
Disease of Cervical Glands.

THE PRESBYTERIAN HOSPITAL
IN THE CITY OF NEW YORK

Ward ____________
History No. ____________
Name ____________ *Age* ____
Division ____________

IV. Habits:	When Well	At Present
1. Appetite:		
2. Bowels:		
3. Digestion		
4. Tea and Coffee:		
5. Alcohol:		
6. Tobacco:		
7. Urination:		
8. Sleep:		
Mouth Breathing:		
9. Exercise:		
10. Menstruation:		

V. Present History:

Chief Complaints:

Present History to give (1) Time of Onset of First Disease of Cervical Glands; (2) Early Symptoms in Order of Occurrence, (3) Subsequent Course to Date and (4) The following Special Features of the Cervical Swellings: Give number of Swellings and for each, give location, size when first noticed, growth, consistence, and sensation. In addition, complete the present history. Inquire into recent condition of scalp, eyes, nose, throat, teeth, and ears.

118-JCM-8-17-C

HISTORY ANALYSIS FOR CASES OF CHRONIC APPENDICITIS.

THE PRESBYTERIAN HOSPITAL

IN THE CITY OF NEW YORK

HISTORY ANALYSIS FOR CASES OF CHRONIC APPENDICITIS.

Case No. History No. Patient's Name:
Sex. Age. Admission No. Address,
Discharge No.

Operator: Dr. 1. Lambert 2. Brewer 3. Eliot 4. Hawkes 5. Darrach 6. McWilliams 7. Auchincloss
8. Corscaden 9. Whipple 10. Jameson 11. Burnap 12. St. John 13. Vaughn 14. Woolsey
15. Blake 16. Hartwell 17. Hanford 18. Rulison.

I. Chief Complaint:

1. Pain in 1. R.L.Q. 2. Epigastrium 3. R.U.Q. 4. Umbilical Region 5. Right Lumbar Region 6. General Abdominal 7. Left Side.

2. Tenderness: in 1, 2, 3, 4, 5, 6, 7.

3. Gastric Disturbances: (1) Nausea (2) Vomiting (3) Belching of Gas (4) Sour Eructations.

4. Large Bowel Disturbances:
  1. Feeling of Distress in (1) R.L.Q. (2) R.U.Q. (3) Umbilical Region (4) General Abdominal (5) Left Side.
  2. Feeling of Distention in 1, 2, 3, 4, 5.

5. Constipation **6.** Diarrhœa **7.** Constipation alternating with Diarrhœa **8.** Constitutional Disturbances 1. Fever 2. Loss of Weight. 3. Loss of Strength 4. Loss of Appetite 5. Malaise 6. Headache

II. History of Present Disorder (Present or Last Attack):

1. Onset:
  1. Mode: (1) Sudden (2) Gradual.
  2. Time: (1) ....Hrs. (2) ....Days. (3)................Weeks (4) .... Months ago.
  3. Duration: (1) ....Hrs. (2) ....Days (3) ....Weeks (4) ....Months.

2. Pain:
  1. Type: (1) Constant (2) Intermittent.
  2. Character: (1) Sharp (2) Dull (3) Colicy (4) Cramp-like (5) Stabbing (6) Burning (7) Gnawing (8) Boring (9) Aching.
  3. Location: (1) R.L.Q. (2) Epigastrium (3) R.U. Q. (4) Umbilical (5) Right Lumbar (6) General Abdomen (7) Left Side.
  4. Localized to (1) (2) (3) (4) (5) (6) (7).
  5. Radiation to (1) (2) (3) (4) (5) (6) (7) or (8) L.U.Q. (9) L.L.Q. (10) Back between Shoulders (11) Lower Extremities.
  6. Relation of Onset of Attack to Meals: ....Hrs. after eating.
  7. Eased by (1) Vomiting (2) Defecation (3) Urination (4) Exertion (5) Lying Down (6) Sitting Up (7) Pressure over R.L.Q. (8) Medication by Mouth (9) By Hypodermic (10) Hot Applications (11) Cold Applications (12) Belching Gas (13) Ingestion of Food (14) Enema.
  8. Made Worse by: (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14).

3. Tenderness:
  1. Onset: (1) ....Hrs. (2) ....Days (3) ....Weeks (4) .... Months ago.
  2. Duration: (1) ....Hrs. (2) ....Days (3) ....Weeks (4) ....Months.
  3. Location: (1) R.L.Q. (2) Epigastrium (3) R.U.Q. (4) Umbilical Region (5) Rt. Lumbar (6) Gen. Abd. (7) Lt. Side.

HISTORY ANALYSIS FOR CASES OF CHRONIC APPENDICITIS—(Continued).

4. Deranged Function of the Alimentary Tract.
    1. Gastric Disturbances.
        1. Feeling of Discomfort after meals in (1) Epigastrium (2) R.L.Q. (3) R.U.Q. (4) Umbilical Region.
        2. Feeling of Distention in (1) (2) (3) (4).
        3. Feeling of Lump after Meals in (1) (2) (3) (4).
        4. Belching of Gas after Meals. 5. Sour Eructations.
        6. Nausea: (1) Independent of Food (2) After Ingestion of Food (3) Accompanied by Vomiting (4) Before Pain (5) With Pain (6) After Pain.
        7. Vomiting: (1) Before Pain (2) With Pain (3) After Pain (4) ....Hrs. after Ingestion of Food (5) Frequency.
        8. Vomitus: (1) Color ① None ② Green ③ Black ④ Red ⑤ Coffee ground.
           (2) Amount ① Slight ② Moderate ③ Large.
           (3) Food ① None ② Of Last Meal ③ Of Previous Meals.
           (4) Mucus ① Present ② Absent.
           (5) Taste ① None ② Acid ③ Bitter.
    2. Small and Large Intestinal Disturbances:
        1. Feeling of Distress in (1) R.L.Q. (2) R.U.Q. (3) Umbilical Region (4) Left Side (5) Gen. Abd.
        2. Feeling of Distention in (1) (2) (3) (4) (5).
        3. Constipation 4. Diarrhoea 5. Constipation and Diarrhoea alternating.
        6. Stools: (1) Normal (2) Loose (3) Constipated (4) Small (5) Large (6) Clay-color (7) Brown (8) Black (9) Mucus (10) Blood ① Macroscopic ② Occult (11) Pus (12) Foul Odor (13) Undigested Food (14) "Currant Jelly."
        7. Evidence of Putrefaction or Fermentation by Passage of Large Amounts of Flatus.
5. Constitutional Disturbances:
    1. Loss of Weight ....lbs. in (1) ....Days (2) ....Weeks (3) ....Months (4) ....Yrs.
    2. Loss of Strength in % Former Strength ....%.
    3. Loss of Appetite. 4. Fever for ....Days. 5. Chills.
    6. Malaise. 7. Headache.
6. Was Murphy's Sequence (Pain, Nausea, or Vomiting, Tenderness, Fever) (1) Present (2) Absent.
7. Skin:
    1. Acne. 2. Any other Skin Disease (Name). 3. Jaundice.

III. HISTORY OF PREVIOUS ATTACKS:

1. Number of Previous Similar Attacks (Give dates accurately):
   1. 2. 3. 4. 5.
2. Number of Dissimilar Attacks (State in what symptoms differed from present or last attack):
    1. In................Attack there was:
    2. In................Attack there was:
    3. In................Attack there was:
3. Murphy's Sequence was present in 1, 2, 3, 4, attack.
4. Were attacks preceded by a period of 1. Overwork 2. Nervous Strain 3. Indiscretion in diet.
5. Operation was performed ....mos. ....yrs. ago.
    1. Name Operation:
    2. Followed by (1) No Relief (2) Immediate Relief (3) Relief after ....weeks ....months (4) Symptoms recurring after ....weeks ....months ....years.
6. Symptoms of Alimentary Tract Disturbance have been present for ....weeks ....months ....years.
    1. Feeling of distress in (1) R.L.Q. (2) Epigastrium (3) R.U.Q. (4) Umbilical Region (5) Rt. Lumbar (6) Gen. Abd. (7) Lt. Side.
    2. Feeling of Distention in (1) (2) (3) (4) (5) (6) (7).
    3. Constipation. 4. Diarrhoea. 5. Constipation and Diarrhoea alternating.
    6. Evidence of putrefaction or fermentation by passage of flatus.
    7. Presence in stools of (1) Mucus (2) Pus (3) Undigested Food.
7. Do symptoms of Present Disorder have any relation to menses.
   If so: 1. Before. 2. During. 3. After.

HISTORY ANALYSIS FOR CASES OF CHRONIC APPENDICITIS—(Continued).

IV. History of Other Disorders or Diseases:

Name the diseases with age of patient at the time disease was contracted and the duration if of chronic type.

- **1**. Focal Infection:
  - 1. Tonsillitis. 2. Infection of roots of teeth. 3. Gall Bladder. 4. Kidney. 5. Sinuses. 6. Mastoid 7. Fallopian Tubes. 8. Prostate. 9. Seminal Vesicles.
- **2**. Venereal Diseases:
  - 1. Syphilis. 2. Gonorrhœa.
- **3**. Nervous Diseases:
  - 1. Hysteria. 2. Psychoses.
- **4**. Orthopedic Condition.
- **5**. Cutaneous Disease.
- **6**. Endocrine Condition.
- **7**. Any other disorder or disease.

V. Facts Relating to the Patient's Normal and Abnormal Habits, Customs and Economic Condition and Routine:

- **1**. Habits of:
  - 1. Eating: (1) regular (2) irregular (3) hearty (4) light (5) rapid (6) slow.
    - (7) Diet: Patient eats ① coarse cereals ② fruit ③ green vegetables ④ fried foods.
      ⑤ Meat is eaten .... a day ⑥ Eggs are eaten .... a day ⑦ Bread [①] white [②] whole wheat [③] graham [④] rye [⑤] bran ⑧ Fish is eaten .... a week ⑨ Cream .... a day ⑩ Butter............ a day ⑪ Water is drunk .... glasses daily ⑫ coffee .... cups daily. ⑬ tea .... cups daily.
  - 2. Defecation: .... daily (1) Bowels move regularly ① with catharsis ② without catharsis (2) Bowels move irregularly ① with catharsis ② without catharsis (3) Movements are ① constipated ② loose.
  - 3. Micturition .... during the night.
  - 4. Sleep: (1) sound sleeper (2) light sleeper.
  - 5. Exercise: (1) taken regularly (2) irregularly (3) none.
  - 6. Work: (1) indoors (2) outdoors (3) manual (4) clerical (5) by day (6) by night (7) average working hours ....
  - 7. Drugs:
    - (1) Alcohol in the form of ① beer ② ale ③ wine ④ whiskey or distilled liquors.
      ⑤ Number of drinks daily .... ⑥ Number of drinks before breakfast ....
      ⑦ Number of years that the patient has been taking alcohol.
    - (2) Tobacco is used in the form of ① cigars ② cigarettes ③ pipe ④ chewing tobacco.
      ⑤ Number of smokes daily, average .... ⑥ Number of years that tobacco has been used ....
    - (3) Narcotic drugs are used in form of ① Morphine ② Opium ③ Cocaine ④ Heroin.
- **2**. Economic Condition: Monthly Income ....
- **3**. Sexual History (for the female patients)
  - 1. Menstrual History: (1) regular (2) irregular (3) painless (4) painful.
  - 2. Marital History: (1) Number of children .... State their ages for relation to present disorder (2) number of miscarriages. State the time of occurrence.
- **4**. Family History of Appendix disease in 1. mother 2. sisters 3. father 4. brothers.
- **5**. Accuracy of the history is 1. accurate 2. fair 3. inaccurate.

VI: Examinations:

- **1**. Physical Examination:
  - 1. General: Admission T P. R.
    - (1) Acutely ill (2) Chronically ill (3) Well nourished (4) Poorly nourished (5) Obese (6) Thin (7) Emaciated (8) Temperament ① Neurotic ② Phlegmatic ③ Normal (9) Intelligent (10) Unintelligent.
  - 2. Skin:
    - (1) Normal (2) Pallor (3) Jaundiced (4) Dry, coarse (5) Hairy (6) Acne (7) Pigmentation (8) Puffy swellings (Myxœdema)

HISTORY ANALYSIS FOR CASES OF CHRONIC APPENDICITIS—(Continued).

3. Head, Extremities and Spine:
    (1) Tongue: ① Moist ② Dry ③ Coated.
    (2) Tonsils: ① Enlarged ② Inflamed ③ Infected crypts.
    (3) Teeth: ① Good Condition ② Carious ③ Pyorrhœa ④ False.
    (4) Thyroid: ① Enlarged ② Cystic.
    (5) Pupils of eyes: ① React normally ② Do not react normally.
    (6) Extremities: ① Knee jerks [①] active [②] Sluggish [③] Absent ② Flatfoot ③ Congenital dislocation of hip ④ Chronic Osteomyelitis.
    (7) Blood Vessels: ① Normal ② Sclerotic ③ Blood Pressure [①] Systolic [②] Diastolic.
    (8) Superficial Lymph Nodes: ① Enlarged ② Not Enlarged.
    (9) Spinal Column: ① Scoliosis ② Lordosis ③ Old Potts' Deformity ④ Sacro-iliac Joint Weak.
4. Chest:
    (1) Heart: ① Normal ② Enlarged ③ Compensated ④ Not compensated.
    (2) Lungs: ① Normal ② Signs of Consolidation in [①] R.U.L. [②] R.M.L. [③] R.L.L. [④] L.U.L. [⑤] L.L.L. ③ Signs of Fluid in [①] Rt. Side [②] Lt. Side.
5. Pelvic Examination:
    (1) Adnexa: ① Normal ② Inflamed.
    (2) Uterus: ① Normal ② Displaced ③ Fibromyomata ④ Cervical laceration ⑤ Endometritus ⑥ Parametritus.
    (3) Rectal: ① Normal ② Stricture or Obstruction present ③ Hemorrhoids ④ Prostate [①] Enlarged [②] Inflamed [③] Normal ⑤ Seminal Vesicles [①] Enlarged [②] Inflamed [③] Normal.
6. Abdominal Examination:
    (1) Inspection ① Contour normal ② Obese ③ Scaphoid ④ Distended [①] Symmetrical [②] Asymmetrical ⑤ Operation scar in [①] ....Quadrant [②] Epigastrium [③] Umbilical Region [④] Hypogastrium ⑥ Hernia present in [①] [②] [③] [④] ⑦ abnormal laxity of Wall ⑧ Visible Peristalsis.
    (2) Palpation: ① Tenderness present in [①] R.L.Q. [②] Over McBurney's Point [③] Epigastrium [④] R.U.Q. [⑤] Umbilical Region [⑥] Rt. Lumbar [⑦] Gen. Abd. [⑧] Lt. Side [⑨] Increased by active flexion of right thigh (Meltzer's Sign).
        ② Rigidity present in [①] [②] [③] [④] [⑤] [⑥] [⑦] [⑧]
        ③ Rebound Sign in [①] [②] [③] [④] [⑤] [⑥] [⑦] [⑧]
        ④ Pressure in L.L.Q. causes [①] Increased pain in R.L.Q. [②] No increase in pain in R.L.Q.
        ⑤ Bastedo's Sign [①] Present [②] Absent.
        ⑥ Appendix [①] Palpable [②] Not palpable.
        ⑦ Mass made out in [①] R.L.Q. [②] Umbilical Region [③] Rt. Lumbar [④] R.U.Q. [⑤] Left Side.
        ⑧ Liver edge palpable ⑨ Spleen edge palpable.
    (3) Percussion: ① Area Dulness in [①] R.L.Q. [②] Epigastrium [③] R.U.Q. [④] Umbilical Region [⑤] Rt. Lumbar [⑥] Lt. Side ② Shifting Dulness [①] Present [②] Absent.
    (4) Auscultation: ① Evidence of increased peristalsis.

2. Radiographic Examination. 1. Fluoroscopy. 2. Plates.

1. Gastro-intestinal:
    (1) Oesophagus: ① Constriction ② Cardiopasm.
    (2) Stomach: ① Position [①] Horizontal [②] Oblique [③] Vertical [④] Ptosis.
        ② Peristalsis [①] Normal [②] Increased [③] Diminished.
        ③ Spasm [①] Cardia [②] Body [③] Antrum.
        ④ Defects ⑤ Residue
        ⑥ Antrum [①] Normal [②] Dilated [③] Contracted.
        ⑦ Pylorus [①] Horizontal [②] Oblique [③] Vertical.
    (3) Duodenum: ① Size [①] Normal [②] Large [③] Small; ② Cap; ③ Outline [①] Regular [②] Irregular; ④ Position [①] Normal [②] High [③] Low; ⑤ Mobility [①] Normal [②] Increased [③] Diminished.
    (4) Jejunum: ① Regular ② Irregular.
    (5) Ileum: ① Normal ② Dilatation ③ Stasis ④ Adhesions.

HISTORY ANALYSIS FOR CASES OF CHRONIC APPENDICITIS—(Continued).

(6) Cæcum: ① Defects ② Position [①] Normal [②] High [③] Low; ③ Tone [①] Normal [②] Increased [③] Diminished; ④ Mobility [①] [②] [③]; ⑤ Motility [①] [②] [③]; ⑥ Tenderness [①] [②] [③]
(7) Ascend Colon ① ② [①] [②] [③] ③ [①] [②] [③] ④ [①] [②] [③] ⑤ [①] [②] [③] ⑥ [①] [②] [③]
(8) Hepatic Flex ① ② [①] [②] [③] ③ [①] [②] [③] ④ [①] [②] [③] ⑤ [①] [②] [③] ⑥ [①] [②] [③]
(9) Trans Colon ① ② [①] [②] [③] ③ [①] [②] [③] ④ [①] [②] [③] ⑤ [①] [②] [③] ⑥ [①] [②] [③]
(10) Splenic Flex ① ② [①] [②] [③] ③ [①] [②] [③] ④ [①] [②] [③] ⑤ [①] [②] [③] ⑥ [①] [②] [③]
(11) Descend Colon ① ② [①] [②] [③] ③ [①] [②] [③] ④ [①] [②] [③] ⑤ [①] [②] [③] ⑥ [①] [②] [③]
(12) Sigmoid ① ② [①] [②] [③] ③ [①] [②] [③] ④ [①] [②] [③] ⑤ [①] [②] [③] ⑥ [①] [②] [③]
(13) Rectum ① ② [①] [②] [③] ③ [①] [②] [③] ④ [①] [②] [③] ⑤ [①] [②] [③] ⑥ [①] [②] [③]
(14) Appendix ① Visible ② Invisible ③ Movable ④ Fixed.

2. Genito-Urinary:

(1) Kidneys:
① Position: [①] Rt. (①) Normal (②) Low [②] Lt. (①) Normal (②) Low.
② Size: [①] Rt. (①) Normal (②) Increased (③) Diminished. [②] Lt. (①) (②) (③).
③ Outline: [①] Rt. (①) Regular (②) Irregular. [②] Lt. (①) (②)
④ Calcification: [①] Rt. [②] Lt.
⑤ Pyelogram: [①] Rt. [②] Lt.

(2) Ureters:
① Stone: [①] Rt. [②] Lt.
② Kink: [①] Rt. [②] Lt.
③ Bladder: [①] Stone [②] Diverticulum.

(3) Spine:
① Normal ② Anomaly ③ Disease ④ Injury.

(4) Pelvis:
① ② ③ ④.

3. Cystoscopic Examination:

(1) Urethra: ① Normal ② Stricture ③ Inflammation.
(2) Bladder: ① Normal ② Capacity ③ Inflammation ④ Stone.
(3) Prostate: ① Normal ② Nodular ③ Secretion [①] Normal [②] Pus.
(4) Ureteral Orifices: ① Normal ② Diseased Rt. Lt.
(5) Ureters: ① Rt. [①] Normal [②] Stricture [③] Stone. ② Lt. [①] [②] [③].
(6) Pelvis of Kidneys: ① Rt. [①] ....cc. Distention causes pain [②] return flow.
② Lt. [①] ....cc. " " " [②] return flow.
(7) Functional Test: ① Rt. [①] Ambard [②] Phthalein. ② [①] [②].
(8) Urine Examination: ① Rt. [①] Spec. Grav. [②] Alb. [③] Sugar [④] R.B.C. [⑤] Pus [⑥] Casts.
② Lt. [①] [②] [③] [④] [⑤] [⑥].

4. Clinical Pathology:

(1) Blood: ① W.B.C. .... [①] Polys. ....% [②] Eosinophiles ....%.
② R.B.C. .... [①] Hemoglobin ....%.
③ Culture [①] Sterile [②] Positive for ....
④ Wassermann [①] Positive [②] Negative. ⑤ Widal [①] [②].

(2) Stomach Contents: ① Amount .... ② Total Acidity .... ③ Free HCL .... ④ Combined HCL .... ⑤ Organic Acids and Acid Salts .... ⑥ Lactic Acid ⑦ Vomitus.

(3) Sputum: ① Pneumococcus Group I, II, III, IV. ② Tubercle Bac. Present.

(4) Fœces: ① Mucus ② Pus ③ Undigested Food ④ Blood [①] Occult [②] Macroscopic ⑤ Ova and Parasites.

(5) Urine: ① Spec. Grav. .... ② Albumen ③ Casts ④ R.B.C. ⑤ Pus ⑥ Sugar ⑦ Acetone ⑧ Diacetic Acid ⑨ Functional Test [①] Ambard .... [②] Phthalein ....

(6) Spinal Fluid: ① Increased Pressure ② Wassermann [①] Pos. [②] Neg.

HISTORY ANALYSIS FOR CASES OF CHRONIC APPENDICITIS—(Continued).

VII. Diagnosis Before Operation:

1. Based on History:

2. Based on Examination:

1. Chronic Appendicitis, 2. Acute Appendicitis, 3. Tuberculosis of Appendix, 4. Gastric Ulcer, 5. Duodenal Ulcer, 6. Cholecystitis, 7. Cholelithiasis, 8. Acute Pancreatitis, 9. Acute Ileus, 10. Right Inguinal Hernia, 11. Diffuse Peritonitis (1) Tuberculous (2) Non-Tuberculous, 12. Carcinoma of Cæcum, 13. Tuberculosis of Cæcum, 14. Carcinoma of Colon, 15. Carcinoma of Sigmoid, 16. Diverticulitis (1) Colon (2) Sigmoid, 17. Tuberculosis of Mesenteric Lymph Nodes, 18. Acute Salpingitis, 19. Chronic Salpingitis, 20. Tuberculosis of Fallopian Tube, 21. Tubal Pregnancy, 22. Ovarian Cyst, 23. Twisted Ovarian Cyst, 24. Nephrolithiasis, 25. Intussusception.

VIII. Operation:

1. Findings:

1. Position of Appendix: (1) Pelvic, (2) Along Iliac Vessels, (3) To Sacral Promontory, (4) Retrocæcal, (5) Mesiocæcal (under ileum), (6) Laterocæcal, (7) In iliac fossa, (8) Mesiocæcal (over ileum), (9) Intraperitoneal, (10) Extraperitoneal ① entire ② part (state portion ....)
2. Point of Origin: (1) Post-Cæcal, (2) Anterior Cæcal, (3) Inferior Cæcal.
3. Mesenteriolum: (1) Normal (posterior to ileum), (2) Anterior to ileum, (3) Short ① entire length ② portion (state ....), (4) Absent ① entire ② portion (state ....), (5) Thickened ① fat ② œdema ③ hemorrhage ④ purulent exudate.
4. Angle of Appendix to Cæcum ....
5. Macroscopic Appearance: (1) Normal, (2) Distended ① complete ② portion (state ....), (3) Wall swollen, tense, congested ① entire ② portion (state ....), (4) Fibroid, (5) Appendix obliterans, (6) Adhesions (describe ....), (7) Fœcal Concretions, (8) Stricture, (9) Distortion, (10) Clubbed tip.
6. Cæcum: (1) Position ① Normal ② Ptosis ③ Arrest of Rotation and Descent (give exact location) (2) Mobile, (3) Non-mobile, (4) Congestion, (5) Inflammation, (6) Membrane, (7) Adhesions.
7. Lane's Kink (angulation of terminal ileum with adhesions).
8. Colon: (1) Congestion, (2) Inflammation, (3) Membrane ① Non-Obstructive ② Obstructive (Jackson's Membrane—limited to ascending colon), (4) Adhesion, (5) Ptosis: Level of ① Hepatic Flex. [①] Normal [②] Brim of Pelvis [③] Pelvis. ② Trans. Colon [①] [②] [③]. ③ Splenic Flex: [①] [②] [③], (6) Megalocolon ① entire ② portion (state).
9. Sigmoid: (1) Congestion, (2) Inflammation, (3) Membrane, (4) Adhesions, (5) Anomaly.
10. Mesenteric Glands: (1) Enlarged, (2) Calcified, (3) Caseated.
11. General Abdominal Ptosis. 12. Omentum Adherent to ....
13. Liver: (1) Normal, (2) Enlarged (3) Cirrhotic, (4) Congested, (5) Adhesions.
14. Gall Bladder: (1) Normal, (2) Thickened, (3) Distended, (4) Contracted, (5) Adhesions, (6) Stones.
15. Gall Ducts: (1) (2) (3) (4) (5) (6) State Duct.
17. Pancreas (1) Normal, (2) Enlarged (3) Hard, (4) Nodular, (5) Inflamed.
18. Right Kidney: (1) Ptosis, (2) Enlarged.
19. Fallopian Tubes: (1) Right: ① Normal, ② Thickened, ③ Hydrosalpinx, ④ Pyosalpinx. (2) Left: ① ② ③ ④.
20. Ovaries: (1) Right: ① Normal, ② Inflamed, ③ Cystic, ④ Prolapse. (2) Left: ① ② ③ ④
22. Uterus: (1) Normal, (2) Enlarged, (3) Retroflexion, (4) Anteflexion, (5) Retroversion, (6) Fibroids.
23. Free Fluid in Peritoneal Cavity: (1) Clear (2) Hemorrhagic (3) Cloudy (4) Culture.

2. Procedure:

1. Incision: (1) Oblique intermuscular, ① McBurney ② Weir Extension, (2) Rt. Rectus (Kammerer), (3) Rt. Rectus with muscle retracted to outer side, (4) Rt. Rectus (separation of fibres), (5) Mid-line vertical, (6) Transverse.
2. Appendicectomy: (1) Inversion of stump, (2) Stump buried, (3) Stump ligated and not buried, (4) Reinforcing sutures ① taken ② not taken.
3. Cholecystectomy. 4. Cholecystostomy. 5. Gastro-enterostomy. 6. Salpingectomy. 7. Oophorectomy.

HISTORY ANALYSIS FOR CASES OF CHRONIC APPENDICITIS—(Continued).

8. Division of Adhesions. 9. Drainage. 10. Anæsthesia: (1) Gas-ether (Bennett), (2) Drop ether, (3) Gas-Oxygen, (4) Gas-Oxygen-Ether, (5) Gas-Oxygen-Chloroform, (6) Chloroform, (7) Local: Novocaine, (8) Local-Cocaine, (9) Spinal, (10) Intrapharyngeal.

IX. DIAGNOSIS AT OPERATION:

1. Chronic Appendicitis:

2 Accompanying Condition: 1. Cholecystitis, 2. Cholelithiasis, 3. Gastric Ulcer, 4. Duodenal Ulcer, 5. Meckel's Diverticulitis, 6. Salpingitis, 7. Ovarian Cyst, 8. Nephro-lithiasis, 9. Pancreatitis, 10. Hepatitis, 11. Ptosis of Abdominal Viscera, 12. Typhlitis, 13. Colitis, 14. Sigmoiditis, 15. Diverticulitis, 16. Mesenteric Adenopathy, 17. Tubal Pregnancy, 18. Adhesions.

X. PATHOLOGICAL REPORT NO.

1. Gross Specimen consisted of 1. Appendix, 2. Mesenteric Glands, 3. ....

2. Appendix:

1. Color: (1) Normal, (2) Red, (3) Mottled, (4) ....
2. Measurements were (1) .... cm. thick and (2) .... cm. long.
3. Contour was (1) Slightly curved, (2) Tortuous, (3) Kinked, (4) Clubbed tip.
4. Wall was (1) Normal, (2) Thinned, (3) Thickened, (4) Measured .... mm.
5. Contents: (1) Fœcal matter, (2) Mucus, (3) Concretions, (4) Foreign body, (5) Parasites
6. Adhesions were (1) Thin, recent, (2) Thick, old, (3) Scanty, (4) Extensive.
7. Lumen: (1) Normal, (2) Dilated, (3) Strictured, (4) Obliterated.
8. Mucosa: (1) Normal, (2) Hypertrophic, (3) Atropic, ① in whole ② in part, (4) Absent, (5) Goblet cells ① Normal ② Numerous, (6) Cellular infiltration ① Round cells ② ....
9. Submucosa: (1) Width increased, (2) Width decreased, (3) Lymphoid Structures: ① Normal ② Increased ③ Decreased, (4) Cell infiltration: ① Round cell, ② ....
10. Muscular Coats: (1) Normal, (2) Thinned, (3) Thickened (4) Cellular infiltration ① Round cell ② .... (5) Separation of fibres.
11. Sub-serous layer: (1) Normal, (2) Lymph spaces dilated. (3) Cellular infiltration ① Round cell ② ....
12. Peritoneum: (1) Normal, (2) Thickened, (3) Exudate.
13. Concretions: (1) Number, (2) Shape. (3) Composition.
14. Mucocele: (1) Intra. (2) Extra.
15. Diverticulum. 16. Culture of (1) mucosa, (2) peritoneum.
17. Mesenteriolum: (1) Thickened, (2) Infiltration.

3. Diagnosis:

XI. HISTORY OF POST-OPERATIVE COURSE AND CONDITION:

1. Post-Operative Course:

1. First 24 hours: (1) Nausea, (2) Vomiting, (3) Headache, (4) Shock, (5) Hemorrhage.
2. Pulmonary: (1) Pneumonia, (2) Pleurisy, (3) Bronchitis, (4) Empyema, (5) Abscess of Lung (6) Oedema of Lung.
3. Cardio-Vascular: (1) Fibrillation, (2) Decompensation, (3) Thrombosis of ① Femoral (Rt. Lt.) ② Internal Saphenous, ③ Mesenteric.
4. Alimentary Tract: (1) Distention, (2) Acute Ileus, ① Paralytic ② Mechanical, (3) Acute Dilatation of Stomach, (4) Colitis, (5) Proctitis.
5. Renal: (1) Acute Suppression, (2) Acute Retention, (3) Uræmia, (4) Cystitis, (5) Pyelitis, (6) Pyelonephritis, (7) Acute Nephritis, (8) Chronic Nephritis.
6. Infection of: (1) Operative Wound, (2) Abdominal Wall, (3) Peritoneum, (4) Residual Abscess of ...., (5) Sub-phrenic Abscess, (6) Fœcal Fistula ① Day of Appearance ② Day of Disappearance.
7. Dressings: (1) Sutures removed on .... day, (2) Drains removed on .... day, (3) Wound closed on .... day.
8. Patient discharged on .... day post-op.
9. Result on discharge: (1) Cured, (2) Improved, (3) Unimproved, (4) Died on .... day.

HISTORY ANALYSIS FOR CASES OF CHRONIC APPENDICITIS—(Continued).

2. Advice and Instructions: 1. were given, 2. were not given.

3. Follow-up Notes: (Date of examination or report to be recorded in chronological table with numbers indicating condition at time of report.)

1. Results: (1) Anatomic, (2) Symptomatic, (3) Economic. 2. Weight .... lbs.
3. Date of resuming work: (1) Partially .... (2) Fully ....
4. Appetite: (1) Normal, (2) Subnormal, (3) Excessive.
5. Digestion: (1) Normal, (2) Impaired.
6. Bowels: (1) Regular with artificial means, (2) Regular without artificial means, (3) Irregular with artificial means, (4) Advice given was followed, (5) Advice given was not followed, (6) Constipated, (7) Loose.
7. Examination: (1) Scar firm, no hernia, (2) No abdominal tenderness, (2) Mass palpable, (4) Ventral hernia, (5) Rt. Inguinal hernia.
8. New Diagnoses:

XII. Final Result: ....months, Anatomic................; Symptomatic................; Economic................; .... months: A................S................E................; ....years: A................S................E................

XIII. Subsequent Operation Necessary:

1. Interval of time before return of symptoms ....

2. Symptoms not relieved by first operation: 1. 2. 3.

3. Circumstances preceding return of symptoms. 1. Trauma, 2. Pregnancy, 3. Worry, 4. Over-exertion, 5. ....

Note: Use red ink to check off or fill in new complaints, physical and operative findings, etc. Use green ink in same manner if patient enters hospital a third time for operation.

XIV. Autopsy:

THE LABORATORY OF SURGICAL PATHOLOGY

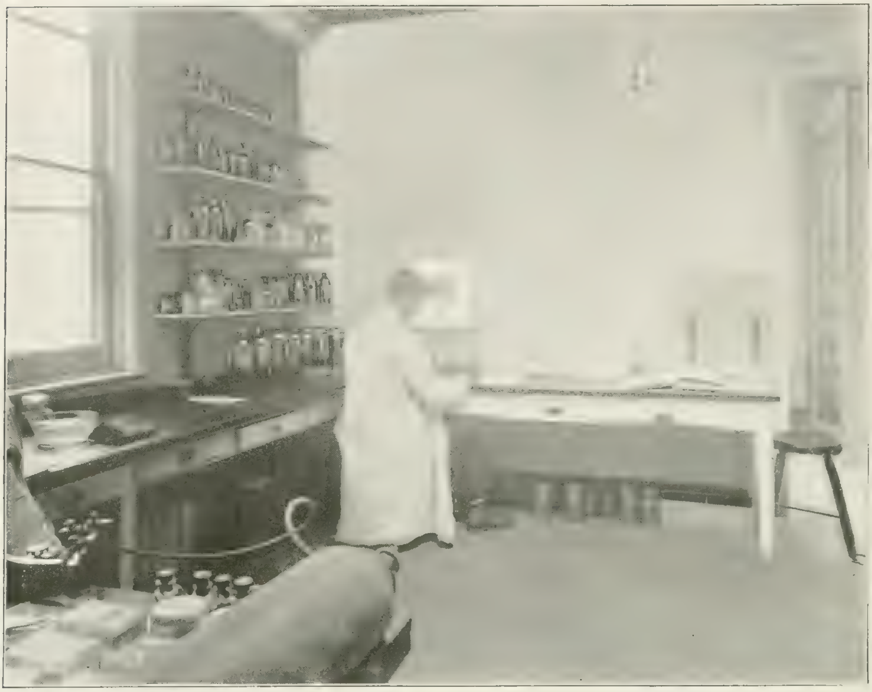
INTRODUCTION.

A laboratory devoted solely to the examination of material removed at operation has been in existence in this Hospital for over seven years. For a considerable proportion of this time its activities have been confined to making descriptive reports of the gross and microscopic appearance of the tissues and the occasional publication of unusual cases or groups of cases by the various surgical pathologists.

When in 1910 the Hospital became allied with the College of Physicians and Surgeons, part of the instruction of students in surgical pathology was carried out in the laboratory. A museum of gross specimens was begun and built up by the members of the present surgical staff.

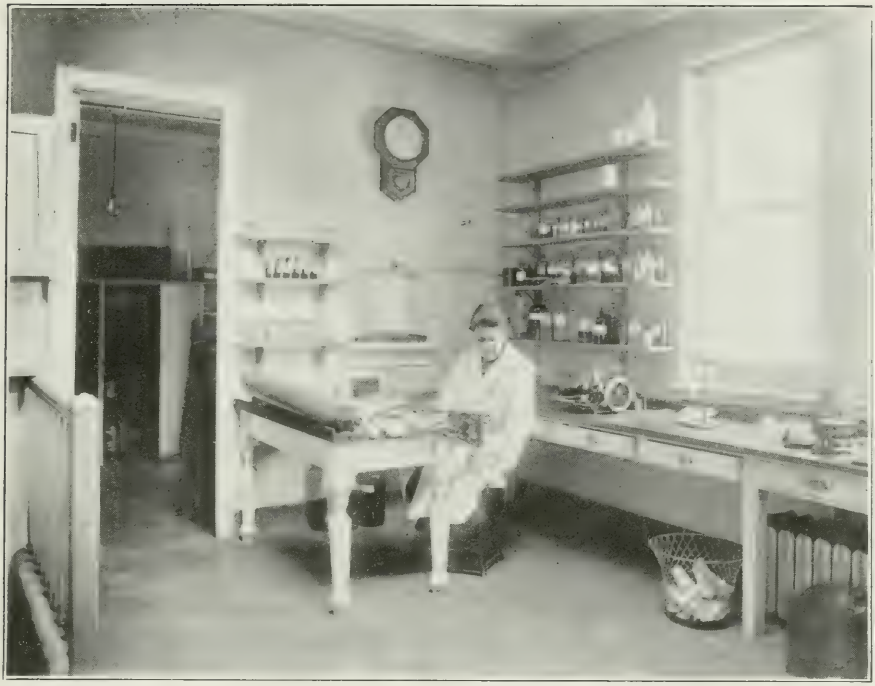
Nearly two years ago through the generosity of the trustees of the Hospital the laboratory was moved from a single room in the operating building which had housed it up to that time into a two-story addition which was built on one side of the operating building. A short time before this its personnel had been increased by obtaining the services of a full-time secretary in addition to the technician already employed.

Within the past year the activities and usefulness of the laboratory have been expanded still further. The report on errors of diagnosis, which is read every week at the staff meetings, was begun and is considered of enough value to become a fixture. The compilation of statistics and the results of operative procedures made possible by the institution of the "Follow-Up System" in this Hospital three and one-half years ago has made enough progress for a portion of it to be included in this volume. (Other innovations, as will be shown by this report, are under way or in contemplation.)



PHOTOGRAPH OF SURGICAL PATHOLOGICAL LABORATORY

Looking Northeast. Showing the eastern wall of the main laboratory room. At the right of the picture is the door leading into the record and microscope room in the corner of which is shown a portion of the cabinet with glass doors for storing trays holding the microscopic slides. Along the partition wall is a table at the right hand end of which is the "accession book." At the left hand end is the place provided for the description of gross specimens. One of the members of the staff is shown examining a specimen and dictating through the window in the partition to the secretary who is seated at her typewriter desk. To the right of the door but not shown in the picture is a sink with a shelf over it holding large bottles of the common laboratory fluids. Under the table holding the "accession book" are empty jars provided for medium sized specimens. In the left foreground is the technician's table with frozen section microtome, tank of carbon dioxide, jars for staining fluids and a row of small, tagged and numbered bottles containing the segments of tissue selected for section and staining.



Photograph of Surgical Pathological Laboratory

Looking Northwest. Shows western part of main laboratory room and through the door a portion of the room where supplies are stored and where gross specimens are temporarily kept before being stored away. At the extreme left of the picture a portion of the stair well leading down to the museum on the floor below is shown. The door leading to the upper operating room is adjacent to this but is not shown in the picture.

The arrangement of table space on three sides of the technician allows her to have everything necessary for the cutting and staining of sections within easy reach and not only saves energy but uses the minimum amount of space. She is shown using the Sartorius frozen section microtome with its attached tank of carbon dioxide. The dishes and jars are arranged in order on the table in front of the tank (see other picture). The paraffin microtome is on the table behind her. On the shelves are the bottles of stains. The microscope shown at the right is always kept at this point to be at hand for quick frozen sections.

The only fault to be found with this arrangement for cutting and staining is the lack of a sink with running water in this corner of the room.

One recommendation that appeals to us as of prime importance and which we hope to see instituted as soon as it may be feasible is the installation of a department of surgical bacteriology in connection with this laboratory. The Hospital bacteriological laboratory is situated at the extreme opposite end of the Hospital from the operating building. This entails the transportation of cultures, smears, etc., over a great distance with all the chances for loss and destruction this implies. Such an innovation would enable the bacteriologist to be present at all operations and to make the cultures himself, thus insuring intelligent care and proper use of media, a thing which is impossible under the present arrangement. It would also provide closer co-operation between the surgical pathologists, surgical bacteriologists and clinical surgeons with benefit to all.

It will be noted that the surgical autopsies are not performed in the surgical pathological laboratory, but in the morgue connected with the general pathological laboratory. This will appeal to all as the only feasible way of dealing with this question when it is realized that the surgical autopsies are too few to warrant the building of a second morgue in the same Hospital. The cordial relations that exist between the laboratories of general and surgical pathology enable each to co-operate with the other and renders the separation of autopsies entirely unnecessary.

Finally, we wish to state that while system and method are necessary to provide accuracy and speed in carrying out the routine work of a laboratory, no system or method is proof against incompetence and procrastination. Whatever measure of success has attended our efforts is due very largely to the intelligence and devoted work of the laboratory secretary and technician. The former's duties are manifold: She typewrites and posts reports, files duplicate reports for the laboratory records, keeps the laboratory diagnosis file up to date, constructs the weekly report of diagnostic errors, and obtains data from the Hospital histories for the compilation of statistics. These are among her more obvious duties, but those who have had anything to do with administration will realize that there are innumerable other details which constantly come up and require attention. The technician who is also a trained chemist not only does the technical work but also carries on chemical investigations. That all this work can be carried on by two persons conveys better than words the fact that they are individuals of exceptional ability.

This report will endeavor to describe the various activities of the laboratory and the methods devised to make the work of the laboratory accurate and speedy. In order to simplify the presentation the different activities will be considered under different headings as follows:

Section I—Laboratory Routine.
Section II—The Compilation of Statistics.
Section III—The Volunteer Assistants.
Section IV—The Weekly Report on Diagnostic Errors.
Section V—Investigation of Material.
Section VI—Chemical Investigation.
Section VII—The Gross Specimen Museum.
Section VIII—Student Instruction in Surgical Pathology.

Section I—Laboratory Routine.

The average number of cases operated upon in this Hospital from which tissue reaches the laboratory for examination and report is about 1,350 per year. The number of operations in a single day varies considerably, but it is not at all uncommon to have from eight to ten. With all this material it will readily be appreciated that a carefully considered system must be devised with very precise regulations for each person who has to do with the specimen from the time it leaves the patient until the report of the pathologist is annexed to the patient's history. Safeguards have to be provided

(1) to prevent the specimens from being mislaid; (2) to prevent them from being confused with other specimens of similar appearance, as in the case of curettings, and (3) to prevent them from being exposed to the air for such a length of time as to render the preparation of miscroscopic sections difficult or impossible.

It is an axiom that the liability for error or loss varies directly with the number of people coming into contact with an object. With this in mind it will be realized that much of the machinery and many of the safeguards about to be described could be dispensed with if a laboratory could have the entire time and services of one man, who would be present at every operation and be personally responsible for the care of the specimens and reports. For a number of reasons, a discussion of which is not pertinent to this report, such a system is not in vogue at this Hospital. It may be said, however, that, in spite of the numbers, the percentage of loss and error is only a fraction of one.

Another axiom in dealing with specimens of tissue is that the percentage of loss and error varies directly with the distance—that is, the greater the distance of the laboratory from the operating room, the greater is the liability of the specimens to be lost, or confused. This was recognized a number of years ago in this Hospital when the present laboratory was constructed so that the door of the room into which the specimens are received opens directly into an ante-room, which communicates with the main operating amphitheatre and from which a stairway leads down to a hall outside a lower operating room. It would be mechanically impossible to get the laboratory into closer proximity to the operating rooms.

In the following description the word "specimen" is used to indicate whatever the surgeon removes from the patient other than material for bacteriological examination. This latter has a different destination and will be considered separately.

When the surgeon has removed a specimen from the body of the patient, if it be of some size, he places it in a sterile enamel bowl, which the nurse assisting at the operation hands him. If it be a small bit, such as material from a curettage or a section taken from an inoperable mass for diagnosis, the nurse provides him with a sterile glass bottle in which the material is placed. The receptacle is then given to an unsterile nurse, who removes it from the operating room to an adjoining room, where it is placed upon a specified table. Here it stays until the operation is finished. It is now the duty of the second assistant at the operation to take charge of the specimen and bring it to the laboratory with an identification slip. This slip originates in the ward and accompanies the patient from the ward to the operating room, where it is taken and placed by a nurse on a table provided for the reception of the specimens. On its arrival this slip contains the following information: the patient's surname and given name, age, ward, date of operation, and *history number.* To this the second assistant adds the name of the operator, the operator's ante-operative and post-operative diagnoses, a descriptive word as to what the material consists of, adds any request for special examinations, etc., that the operator may wish to convey to the surgical pathologist and signs his name to it. He then takes the material and slip into the laboratory.

Before proceeding to the next step, a word of criticism of the above method is in order. It often happens that for one reason or another the second assistant waits until all the operations are finished before taking the accumulated specimens to the laboratory. If there have been many operations the earlier specimens may wait three, four, or even more hours exposed to the air, and during this time autolysis and dessication may almost ruin the tissue for careful study. To obviate this the following change in the routine is contemplated. The operating room nurse will have on hand at operation sterile glass bottles containing formalin or into which formalin can be poured by the unsterile nurse or orderly as soon as the specimens are put into them. The specimens can then wait the leisure of the second assistant without damage.

When the second assistant brings the specimens into the laboratory he finds at the right of the door a sink over which is a shelf holding large bottles of the common laboratory fluids among which is four per cent formalin. On the drip board of the sink are bottles, while larger jars are kept beneath an adjacent table but in plain sight. He places the specimen in a bottle or jar and is expected to cover it *completely* with four per cent formalin. He then places the bottle or jar with the descriptive slip *fastened to it by an elastic band* on an adjacent table, which is provided for the deposition of newly arrived gross specimens awaiting description. Here the responsibility of the second assistant ends.

As soon as possible after the arrival of the specimen the technician or the secretary enters the name, ward, date, and what the specimen consists of in the "Accession Book" under the next vacant number. The "Accession Book" is kept at one end of the gross specimen table. This laboratory number is put on the descriptive slip, on a tag attached to the bottle and on a tag attached to a small extra bottle which is provided at this time to hold whatever segments of tissue the surgical pathologist may select for section cutting purposes. On the table holding the gross specimen awaiting description are provided instruments and a cork block for section and dissection of the specimens.

It is a rule of the laboratory that the specimens shall have gross descriptions and that pieces shall be taken from them for sectioning before twenty-four hours shall have elapsed after their arrival in the laboratory. When the surgical pathologist is ready to describe the specimens of the day, he sits down before the table holding the gross specimens, which is placed against a partition wall dividing the main laboratory from the record and microscope room. Facing him there is a window in the partition on the other side of which sits the secretary at her typewriter desk. He is thus enabled to dictate the gross description as he makes it and the secretary takes it down directly on the typewriter. When he has finished he places the numbered bottle containing the bit to be sectioned on the technician's table and initials and hands the numbered identification slip through the window to the secretary, who places it in his drawer in the microscope table. At the same time she enters into a blank book with dated pages the name of the man giving the description, the number of the specimen and a mark to indicate that the gross description has been made.

When the gross specimen has been described the technician places it in a cupboard in an adjoining room, where it is kept for two or three weeks and is then moved down into the storeroom in the cellar. It often happens that the pathologist needs to make more sections than he at first had deemed necessary for his diagnosis and on that account it is a convenience to keep the gross material easily accessible for a time, thus avoiding unnecessary trips to the cellar.

All routine material (unless contrary instructions are given or it is found impossible) is cut with the frozen section microtome and stained with hematoxylin and eosin, so that most of the slides are ready for microscopic examination from six to forty-eight hours after the tissue has been removed from the body. Exceptions to this are tissues requiring decalcification, paraffine imbedding, or special staining. In order to prevent the mixing of sections during the process of cutting and staining, the technician, as soon as she cuts the section, fixes it to a glass slide with thin celloidin and writes the number on the glass with a diamond.

When the technician has numbered the slides she brings them to the secretary, who places them in the drawer of the individual who made the gross description. Thus when the latter comes to give the microscopic description and diagnosis he finds slides, microscope, identification slip (numbered and initialed), secretary and typewriter all gathered together, and to complete his report he has only to look through the microscope and dictate. If the description is made at a time when the secretary is not on duty, it is dictated into a dictaphone with which the laboratory is provided. When he has finished the secretary notes the date that the report is completed on the page which bears the gross description number and date in the dated blank book. If one of the voluntary workers (see section 3) has made the description, the secretary places the typewritten report with the slides in the attending surgical pathologist's drawer for review, revision if necessary, and initialling. It is a rule that one of the regular attending surgical pathologists must approve and sign his initials after the typewritten name of whoever makes the description.

All reports are made in duplicate. When completed, one copy is taken by the secretary and posted with the patient's history in the ward. If the patient has left the Hospital she gives it to the record room clerk. The other copy she files in numerical order in the report file of the laboratory and the number is entered in its proper place in the diagnosis file. The numbered identification slip which originally came with the specimen is also kept.

While the operating rooms provide most of the material examined a certain number of specimens come from the dispensary, the emergency department and the surgical wards. But whatever the source, the specimens must be accompanied by proper identification slips. If these are missing no examination is made until they are forthcoming.

An attempt is made in this Hospital to do all the operating in the morning except in cases of emergency that come in at other times and require immediate operation. One of the attending surgical pathologists is on hand in the laboratory every morning so that he may be available for quick frozen section diagnosis and consultation with the operating surgeons upon any points about which they think his opinion may be of value to them.

All interesting and instructive material is photographed. In order to simplify this work as much as possible, a camera especially set up and adapted for photographing gross specimens is provided in the laboratory. Whenever a picture is desired a requisition slip is sent to the hospital photographer, who comes down to the laboratory at his convenience and does the work. This system avoids the sending of specimens about the Hospital with the attendant dangers of its loss, injury from drying and destruction.

The laboratory records consist of a number of different parts, a short summary of which may be of interest. In the laboratory record and microscope room are kept (1) the microscopic slide cabinet, (2) the diagnosis file, which corresponds as closely as possible to the Hospital diagnosis file, (3) copies of the typewritten reports filed in numerical order, (4) the identification slips which accompany the specimens to the laboratory filed in numerical order, (5) a large loose-leaf book containing under the proper diagnoses the statistical data. In the technical room of the laboratory is kept (6) the numbered "accession book." In the cellar storeroom and in the museum are kept (7) all gross specimens.

The laboratory numbers, of course, do not correspond with the unit history numbers, but it is always easy to find the unit history number that corresponds with the laboratory number because the copies of the typewritten reports filed in the laboratory record room bear the unit history number in addition to the laboratory number. Conversely if the unit history number be known it is always possible to find the laboratory number on the laboratory report placed in the unit history.

The foregoing paragraphs will convince anyone that the problem of running a Hospital laboratory is not a simple one. The methods that we employ to produce quick and accurate reports are by no means perfect, because in spite of them errors due to faults in the system occasionally creep in. We can only say that we believe it produces results which are an improvement over the ways of our predecessors. This is not a criticism of their ways, which were the best that they could devise with the limited space and means at their disposal. If each year does not show advance in methods and results then those in charge of the laboratory are not faithful to their trust and are not worthy to be continued in office.

In conclusion it may be said that in the final analysis the diagnosis depends upon the acumen of the individual observer and that no system in the world can insure his making a correct interpretation of his observations. All that a system can do is to attempt to make sure that mechanical errors will be eliminated and provide a means of finding slides and specimens if desired at some future date.

SECTION II—THE COMPILATION OF STATISTICS.

There are three chief factors which tend to determine competence in a surgeon. In the majority of cases with which he has to deal he must have the acumen to make a correct diagnosis; he must have the ability to choose the correct method of treatment, and finally he must have a certain degree of technical skill. The ability to choose the correct method of treatment, which is called surgical judgment, is developed chiefly by experience—that is, assuming that he has made a correct diagnosis he does what his own experience and the experience of others have taught him will produce the most favorable outcome for the patient. A great many other factors of course influence his decision and no rule can be laid down which will cover every case, but broadly speaking and the other factors being equal it is upon this experience that his decision depends.

No less than the surgeon does the surgical pathologist depend upon experience and results for a development of his diagnostic ability. Calling a tumor benign, for instance, does not make it so, and it is only by following a case and finding out what happens to it that the correctness of a diagnosis can be proved or disproved.

Admitting these premises to be true, it becomes one of the duties of the surgeon and his coadjutor, the surgical pathologist, to learn as much as possible about the results of the treatment of surgical cases in order to develop to as great a degree as possible the surgical judgment of the one and the diagnostic ability of the other. This view has been recognized for a number of years and it has been the endeavor of many in a more or less desultory manner to follow their cases, even over long periods of years, and to publish the results. It is chiefly upon the published results of individuals in isolated groups of cases plus individual experience that surgical judgment is based at the present time.

To consult the knowledge and experience of others necessitates seeking their publications in a wide variety of journals; a matter consuming no little time and energy. Again it must be remembered that these groups of cases are reported, as a rule, by men who have specialized in the type of case they are reporting; a fact which may make their reports misleading, not only because they have probably acquired unusual skill in their specialty and so may get better results than the average surgeon, but also because of the danger that enthusiasm may shed a *couleur de rose* over their conclusions as to the value of a favored method.

On these and many other accounts it is becoming apparent that to gain a truer conception of the possibilities in any given condition it is necessary to obtain the results in a very large number of cases; *i. e.*, mass statistics. In this connection there will occur to everyone the well-known example of the ability of life insurance companies to predict the probable duration of life of a given individual with an extraordinary degree of accuracy. This has been made possible by the compilation of enormous vital statistics.

What the average surgeon needs is to know the average results of a number of different surgeons in a large number of cases of like nature, in order that when he meets with a similar case he may predict the possible results of any of the various methods of procedure open to him. Information of this character should be available upon all the different types of surgical cases and should be gathered together into an easily accessible reference book, so that the surgeon may refresh his memory upon any given topic at a moment's notice. By the method of case analysis (q. v.) which has been begun for certain types of cases in this Hospital, the basis for clinical diagnosis is established. This, however, belongs to the domain of clinical surgery; it is not within the scope of surgical pathology.

The types of cases which are of peculiar interest to the surgical pathologist are neoplasms and the various inflammations, a recognition of which is sometimes possible only by the aid of a microscope. Those pathological conditions which are the result of mechanical or developmental defects, such as hernia and cleft palate for example, are recognized and dealt with by the clinical surgeon without the aid of the surgical pathologist, and results in these cases can be compiled more properly by the clinician.

During the past year, therefore, there has been begun a compilation of the results to date in cases of malignant neoplasm, using the records of the "Follow-Up System" (q. v.) as the source of information. This group of cases was chosen to begin with because it seemed the most obvious and interesting one. It is our intention, if it be possible to do so with the personnel and time at our command, to classify results on all neoplasms and all inflammations from which specimens of tissue come to the laboratory so that the diagnosis is reasonably certain.

When the decision was made to initiate this work the question at once arose as to how much information it was feasible to include. If large numbers of cases are to be compiled it is obvious that only the briefest facts about each case can be recorded. At the present time we try to give for each neoplasm the age, sex, duration of symptoms, chief complaints, form of treatment pursued, in some cases the suborders of the main type of tumor under consideration, the presence or absence of metastases and the results to date. It has been found possible to ascertain these facts with a reasonable degree of speed and most of them can be recorded by the laboratory secretary who has received special training in this work during the period of her connection with this laboratory.

Not only do we intend to broaden the scope of the statistics to cover all neoplasms and inflammations, but we intend to make the compilation cumulative from year to year, introducing new cases and adding to or completing the ones already recorded. Thus it will be necessary to revise the statistics every year, which in this way will gradually become more and more accurate and trustworthy as time passes. We can only claim for the statistics which are published in another part of this volume that they are a foundation of what will increase in value and accuracy as the years go by, although of relatively slight value now.

Even in a Hospital of this size the accumulated statistics of years will represent a relatively small number of cases. It is earnestly to be hoped that other institutions will make an attempt to accumulate statistics of their own on similar lines so that surgical statistics may eventually approach the high degree of accuracy now attained in the vital statistics of the life insurance companies.

SECTION III—THE VOLUNTEER ASSISTANTS.

It should be the constant effort of any laboratory of surgical pathology to make itself useful and instructive to the greatest possible number of people. Now because a knowledge of surgical pathology and biology must of necessity be the basis for the correct diagnosis and treatment of surgical diseases, one of the most important functions of such a laboratory is to provide an opportunity for the clinical surgeons of the Hospital to which it is attached to examine and study the available material. Not only will this familiarize the clinical surgeon with the minutiae of pathologic and biologic conditions, but it will also enable him to better comprehend the difficulties that confront the surgical pathologist in his attempt to reach the correct interpretation of his observations; *i. e.*, the diagnosis. It will also teach him the limitations of the surgical pathologist so that he will neither overestimate his observations as infallible nor underestimate them as worthless when they do not agree with his clinical findings. Both of these states of mind are found in certain types of surgeons and either of them may so confuse the surgeon's judgment that he may be led to a surgical procedure of harm rather than of benefit to the patient.

With this idea in mind, it has been the custom of this laboratory to seek the voluntary services of members of the visiting and interne surgical staff to assist in describing the material both grossly and microscopically. The volunteer is usually assigned one day in the week when it is his duty to describe all the specimens which have reached the laboratory up to the time he chooses for his examination. He is also expected to come on the following day to complete the description by dictating his observations through the microscope and giving his diagnosis.

His report is then reviewed by one of the attending surgical pathologists, who examines the slides and if necessary the gross material in an attempt to make sure that nothing essential has been overlooked. If any changes are necessary he makes them, at the same time calling the attention of the volunteer to the change or addition and discussing with him the reasons for it.

Thus no reports are made which have not been either prepared or reviewed by the attending surgical pathologist, while at the same time the volunteer has acquired valuable knowledge from his examination and description of the material and has had his attention called to any points which have escaped or have been misinterpreted by him, but which the wider experience of the surgical pathologist has enabled him to detect.

Since the volunteers are drawn from the attending and interne staff, a great portion of whose time is taken up by other duties, it is necessary to limit the amount of work that they may be allowed to undertake—for if they are given too much to do and the work becomes a burden they are liable to lose interest and carry out their examinations in a mechanical and stereotyped way. If this happens, not only do they get no benefit but their reports are apt to be delayed and carelessly made. Finally, it may be said that this system saves the attending surgical pathologists from much of the mechanical routine, giving them more time for the careful examination of special cases which may require their trained knowledge as specialists. It also gives them more time for carrying out the various activities described in the other sections of this report. At the present time there are five volunteer workers attached to the laboratory, one day being assigned to each, and the system is working with great harmony and efficiency.

Section IV—The Weekly Report on Diagnostic Errors.

It sometimes happens that the diagnoses made by the surgeon in charge of a case, first as a result of his physical examination, and second, following his operative procedures do not agree with the diagnosis made following the microscopic examination of the material removed. While this microscopic examination by no means always results in the correct diagnosis, still the percentage of errors made by the pathologist will be much smaller than that made by the surgeon from his gross observations. In order to bring to the attention of the surgical staff those cases in which there is a discrepancy between the various diagnoses, a list is compiled in the laboratory giving the various diagnoses made upon every case operated upon in the Hospital. At the weekly meeting of the surgical staff the pathologist reports from that list the cases operated upon during the preceding week in which the surgeons' ante and post operative diagnoses and the microscopic diagnoses do not agree. A discussion of each of the cases then follows and an attempt is made to account for errors made. It is believed that this helps to improve the diagnostic ability of all because it is a well-known fact in medicine that a man learns more by the mistakes that he makes than in any other way *if he recognizes and profits by them.*

This report is compiled in the surgical pathological laboratory in the following manner. It is a rule of the operating room that the anesthetist shall inquire of each operator before the operation is begun what his diagnosis is. At the end of the operation the anesthetist asks for the operator's post-operative diagnosis, and both of these are recorded on the anesthetic chart. When the second assistant fills out the identification slip that accompanies the specimen to the laboratory he copies upon it these ante and post operative diagnoses from the anesthetic chart. It thus becomes an easy matter for the laboratory's secretary, after the surgical pathologist has made his diagnosis, to typewrite the report, giving the three sets of diagnoses, the patient's name, the operator's name and the date of operation. This is done for every case, and when the list is completed the surgical pathologist selects those cases in which the three diagnoses do not agree and red marks are made against them.

Here it may be emphasized again that the employment of a system such as this renders the compilation of this report a relatively simple matter and the benefits accruing to the surgical staff are out of proportion to the small amount of time expended in its preparation.

SECTION V—INVESTIGATION OF MATERIAL.

Investigation of material removed at operation with a view to publishing the results is one of the more obvious activities of the laboratory and needs little comment. Such work depends upon the energy and ability of the laboratory staff and the time at their disposal. Naturally it is most important to have the routine work of the laboratory promptly and carefully done, and this should never be neglected or allowed to get in arrears. This means not only keeping the reports accurate and up to date, but also critical observation of the methods employed in the laboratory with a view to constant improvement. In a Hospital such as the Presbyterian, which is intimately connected with a medical school, medical education comes next in importance. Whatever time remains may be devoted to the study of material. It is our belief that by far the most valuable and instructive public work that a surgical laboratory can accomplish is the compilation and publication of statistics (see Section II). In addition it is proper to report cases of great rarity, since one institution can of necessity only see a very few similar cases and the majority of surgeons will seldom have an opportunity to learn about them by clinical experience. Detailed studies of large groups of the more common conditions will also be of value. Again, if the surgical pathologist can throw light upon any of the intricacies and perplexities of laboratory diagnosis, publication of his observations may be of aid in helping others to solve similar problems. Finally but by no means the least important is the elucidation of the biological processes observed in surgical pathology. Study of the conditions seen in tissue removed from individuals suffering from different stages of the same pathological process may help to throw light upon its etiology and its biological aspects. At the present time hemorrhoids are being studied with this end in view.

SECTION VI—CHEMICAL RESEARCH.

Under Section V was discussed the directions along which the investigations might be carried out. It was stated there among other things that an attempt should be made to improve technical methods with a view to aiding microscopical diagnosis. The microscopist depends not only upon the minute morphology, but also to a certain extent upon variations of tissue chemical reactions from the average. At the present time certain tissues can be distinguished from others morphologically similar by their staining reactions. With the value of this in mind we are employing the services of a technician who is also a trained chemist. In addition to section cutting she is carrying out a series of investigations attempting to demonstrate what chemical changes occur in cartilage when it undergoes degeneration. If successful in this she will endeavor to ascertain if possible how these changes may be made apparent by means of some of the various dyes or other stains. Research in this field of tissue degeneration holds limitless possibilities.

Section VII—The Gross Specimen Museum.

The preparation of museum specimens is an activity that is probably common to most laboratories where gross material is acquired. It is an obvious method of collecting surgical material and on the face of it would appear to be one of great value in the instruction of both medical students and practicing surgeons. It is our experience, however, that preserved specimens mounted in glass jars with sealed tops, stored away in the shelves of the museum, are more apt to be dust collectors than objects of educational value. If the specimen cannot be taken out and handled it is little better than a photograph. If it is taken out and handled it is apt to be very quickly distorted and destroyed—not to speak of the injurious effect of most of the preservative fluids upon the skin and mucous membranes of those who study them. Again it is of limited value for students to be shown gross specimens without knowing both the pre-operative and post-operative history of the patients from whom they were taken and the microscopic appearance of the tissues.

To gather such complete records and material is a task requiring a vast amount of labor on the part of a number of individuals. With the limited amount of time now allowed for the instruction of the medical students in surgical pathology, it would only be possible for an individual to study properly a very few specimens and records, and while he would gain valuable knowledge from what he did see, he would have to neglect a whole host of other common and not less important conditions.

We have become impressed with the fact that much more real knowledge is gleaned for the student when many hours are applied in the study of a single specimen. In fact, when the laboratories of surgical pathology were first initiated at the College of Physicians and Surgeons, because of the scarcity of the specimens at that time it was possible to occupy a whole month's time upon a single interesting and therefore instructive specimen. There are even specimens which were acquired fifteen years ago that tend constantly to increase in value to us because repeated inspection has brought more and still more of their true make-up to our attention. Because of this necessity of long and careful study of single specimens, many museum specimens shown to a class of students at a single session tends toward superficiality; while deep thought of a single fundamental topic may make a sufficient impression upon their minds to last for years. For example, a trip to the Museum of Natural History to observe a single specimen that may have bearing upon a point that has come up in discussion upon some scientific topic makes a far deeper impression upon the mind than a visit in which an entire wing of the museum is inspected.

It will be recognized from a perusal of the above mentioned difficulties that it is a very real question whether the time, labor and money spent upon the building up of a museum of mounted gross specimens might not be expended to better advantage in other directions. With us this is as yet an unsolved problem. We still keep all specimens in the storeroom and we mount a few and place them in the museum. But this activity of the laboratory is considered a minor one and but a small proportion of the time of the laboratory personnel is expended in this work. Photographs are made of all the more interesting and instructive gross specimens shortly after they are received in the laboratory and before they become distorted by hardening and sectioning and these are made part of the case record in the unit history system.

SECTION VIII—STUDENT INSTRUCTION IN SURGICAL PATHOLOGY.

In the preceding section emphasis was laid upon the limitations of the use of gross specimens in the instruction of medical students. The whole subject of medical education in surgical pathology is such a vast and complicated one and the views held by various persons are so divergent in practice if not in principle, that an extended discussion of the many points at issue would be beyond the scope of this report. An ideal method would be to allow each student to study in detail histories, specimens, slides and results of at least all the commoner surgical conditions. Since each fourth year student is allowed but sixteen hours during his clinical clerkship in surgery for the study of surgical pathology, the absolute impossibility of realizing such an ideal will at once be apparent. At the present time no satisfactory method has been devised to afford the medical students adequate instruction. Gross specimens are used to a limited extent and because of the lack of sufficient microscopes, lantern slides both of gross specimens and microscopic sections are demonstrated and the conditions shown are discussed.

The statistical results of surgical procedure (see Section II) are expected to be of inestimable value as an adjunct to this type of instruction. It is hoped that the use of these figures in connection with the gross and microscopic study of tissue removed at operation will give the student a more comprehensive idea of the values of surgical procedures than he ever had before.

A description of the present methods in vogue for instruction would be valueless because all our attempts at formulating a satisfactory method have up to the present been fruitless. We hope that this chaotic state of affairs may before long be reduced to order—and when this occurs we may publish the result in a future report.

REPORT OF THE OUT-PATIENT DEPARTMENT.

During the past year many changes have come about in the work of the Out-Patient Department of the hospital. As was to be expected when this country entered the war, certain dislocations were bound to occur in civil life involving greater effort or greater renunciation on the part of those whose lot it was to serve at home. From the problems and difficulties which arose with the departure of so many skilled and efficient men, the medical profession was not exempt, and in particular those engaged in hospital work or in teaching found that the new conditions made extraordinary demands upon their resources. This has been particularly true of the out-patient departments of the various city hospitals, where the shortage of doctors was immediately and urgently felt. A situation was suddenly created whereby one man was called upon to do the work of three or four with the alternative that the hospitals be obliged to cease giving treatment to any but the critically ill. Obviously this would prove a serious hardship in a town already not oversupplied with hospital facilities. The Presbyterian Hospital, for instance, gives treatment to about 17,000 out-patients annually. Had the dispensary been obliged to close its doors and all these people been turned away to other hospitals or to the tender mercies of neighborly advice, it is easy to see that much suffering would have resulted. In this emergency the remaining doctors cast about for some means by which the problem could be met without lowering the standard of the medical service rendered. The salvation of the situation was found in the voluntary service of certain capable and intelligent young women who gave their time and best efforts to supply the need of trained assistants which was menacing the continuance of the work.

THE VOLUNTEER DISPENSARY AIDES.

The system seems to have originated with Dr. Charles Hendee Smith in the children's service at Bellevue. It was adopted here last spring and soon extended beyond the clerical functions originally delegated to the volunteer worker. It now forms an integral part of the Surgical Dispensary where not only are the case histories taken by these young women and all the necessary notes as to clinical findings entered upon the charts, but many of the actual dressings are done by them. Constant daily observation and practice under medical direction has given those that have been with us longest a skill and judgment not to be anticipated without preliminary medical education. Therefore not only has the standard been maintained in the face of growing numbers of patients, but in some respects it has been raised and in this the volunteer system has played an important part. Accuracy in diagnosis is always stimulated by a concrete expression of opinion and the knowledge that a note recorded on the chart is subject to the scrutiny or criticism of other doctors is a spur to which few men fail to respond. With the aid of our women assistants it is possible to dictate careful notes on a far larger proportion of cases than it would be possible to include if the doctor himself had to do the clerical work.

As a result of the system now employed in the Surgical Dispensary, it is possible for one man in case of necessity to care for a hundred or more patients. While such an emergency is highly undesirable, it has been by no means uncommon and is apt at any time to recur. It may, therefore, be not out of place to describe the method which has rendered possible the carrying out of this work.

The customary grouping of patients is first made and each patient receives a number according to his priority. The old cases are as a rule called in first and arranged in a large circle close to the wall in their respective rooms. The center of the room is obstructed only by a pail or two and several foot rests. The dressings are removed and where necessary the part cleansed in the routine manner by the nurses and dispensary aides. The lesions are protected by a thin layer of gauze until the doctor is able to attend to them.

Beginning at one end of the circle, the doctor then passes from one case to the other directing in each instance the kind of dressing or method of treatment desired. The simpler are delegated to a nurse or aide. Those patients requiring special care are treated by the physician himself. Meanwhile an assistant seated at the desk is taking down notes on the directions given by the doctor or any clinical data required. This includes the making out of X-ray slips, orders for bake and massage, urinalysis, blood count, Wassermann, medication, comments on pathological conditions observed, progress of the patient, and diagnostic data, letters to other physicians or to clinics, certificates, etc. If the patient requires an operation of a minor nature the part is prepared, an alcoholic-bichloride dressing applied and he is referred to the operating room where he receives appropriate treatment when the physician has disposed of the routine work. While these things are being carried out, another assistant in an adjoining room is taking a careful history on each new patient, and screen cases are getting ready to be examined. The doctor then proceeds to direct the treatment of patients in this room and to make a physical examination of new cases. His notes are dictated to the aide who has taken the case history. By this time another group of patients has been assembled in the room first attended to. One assistant is kept busy sterilizing the instruments, an individual set being used for each patient. She is also otherwise employed, such as bringing X-ray plates and pathological reports, replenishing supplies, etc.

It is thus possible to keep constantly employed a force of six or more assistants in Male Surgery alone, and by assigning to each her special function attain a speed and thoroughness in treatment not possible under the old methods.

In this way, by the time the students arrive it has been possible for the chief to select certain cases for demonstration and classify his material in the respective groups desired for teaching.

In addition to the above mentioned activities of the women dispensary assistants, their utility is constantly demonstrated in numerous other ways, as in explanations to patients, assembling and keeping track of material, addressing communications to parents and delinquent patients, keeping records of special case groups suitable for teaching or publication, filing abstracts of unusual or instructive case histories with a view to use in teaching or for surgical research, taking notes on operations or assisting at such where this is desirable, in every way looking after the comfort of the patients, reassuring such as are nervous or in pain, and performing many of those "little unremembered acts of kindness" and human sympathy so important with the sick.

The Course in Clinical Surgery.

Another phase of the O. P. D. work which deserves mention is the course in Minor Surgery for the third year students. This has been recently reorganized with a view to more thorough and systematic methods of instruction. The work in Minor Surgery, comprising as it does the principal course in practical surgery given in the third year, is important enough to deserve the most careful planning on the part of the instructor. To make the best use of the time allotted, the following scheme of instruction has been adopted, the aim being to give a good grounding in the fundamentals of surgical diagnosis and treatment as applied to minor surgical cases, the pathological appearances of tissues and the basic principles that underlie good surgical judgment.

The course is divided roughly into a number of headings, each corresponding to a case group which is commonly met with in dispensary work. These groups are:

1. Surgical Dressings.
2. Minor Operations.
3. Infections of the Hand (Kanavel).
4. Leg Ulcers.
5. Swellings of the Neck.
6. Chronic Arthritis.
7. Osteomyelitis.
8. Swellings of the Inguinal and Scrotal Regions.
9. Diseases of the Breast.
10. Tumors.
11. Miscellaneous Diagnosis.

Reading is assigned covering each of these classes at the beginning of the course and whenever a suitable case presents itself, the student has an opportunity to apply his theoretical knowledge.

By the time the students arrive, most of the routine work of the dispensary has been disposed of and certain cases belonging to one of the above groups have been selected for demonstration. A short case history is read and the students each have a chance to examine the patients with a view to making a diagnosis. The instructor then holds an informal quiz giving each man a chance to recite and express his views as to the diagnostic possibilities, the physical findings upon which the diagnosis is based, and recommendations for treatment. In this discussion it is possible for the instructor to bring out the salient points of the case and the difference between it and other cases of the same group. The student is encouraged as far as possible to arrive at a conclusion by deductive reasoning starting from his previous information as a basis. Each student receives a mark based upon:

1. His knowledge of the subject obtained from reading or previous instruction;
2. His intelligence and reasoning powers, and
3. The thoroughness and acumen which he has shown in observation of the case.

The men also receive instruction in operative technique and in some cases are permitted to assist at the operations. Throughout the instruction emphasis is laid upon those salient practical differences in cases the recognition of which is essential to correct diagnosis and indispensable to successful treatment. As far as possible theoretical methods of teaching have been superseded by analytical and the underlying reasons for a given conclusion are brought out. The anatomical principles underlying operations are discussed and practical demonstration made of the points emphasized.

At the end of the course a short written examination is given testing the student's grasp of the work covered and stimulating him to more concentrated effort.

On the days when there happens to be a paucity of material suitable for discussion, analyses of case histories are resorted to with the exhibition of photographs and X-rays. With a view to facilitate this part of the work, a catalogue has been started in which are filed abstracts of cases suitable for discussion or instructive in analysis. These are filed according to the clinical groups above outlined. Such a file has the further advantage that on short notice a special class of cases can be assembled and the teaching made more intensive. A certain number of patients will always respond to a request on the part of the doctor that they return for further observation, especially if they are satisfied with their treatment. But this is not the only advantage of such a system of records, which is valuable as a means of assembling material for publication and is arranged to include special case reports, group analyses or lesions that have been the subject of special surgical research. Lastly and most important of all is the function of this file in respect to the follow-up of dispensary cases. Under the old methods much valuable material is lost and there is no means of checking up those cases that are permanently cured and those that continue to suffer but for one reason or another do not return. The ultimate outcome of these cases should not be a matter of conjecture. Naturally such a follow-up includes only specially selected cases, but will prove invaluable in ascertaining the accuracy of diagnosis and in analyzing the end results of treatment. It will of course be some time before the full fruits of this method are obtained but it should prove of increasing utility each year.

THE UNIT HISTORY SYSTEM.

Another important development that has come about in the Out-Patient Department recently, has been the introduction of the unit history system. The advantages of this over the methods formerly in use cannot be too strongly emphasized and are daily apparent to anyone using the charts. Under the old system a case coming to the Out-Patient Department received a chart which never left the dispensary and the notes on such chart besides being as a rule brief and fragmentary, were devoid of proper sequence and without relation to the patient's further medical career. Such patients frequently had severe illnesses, underwent major operations, were the subject of exhaustive study in this or in other hospitals, yielded extensive pathological data and received prolonged treatment, indeed lived and died without one vestige of all this finding its way into the dispensary chart.

Now all this is different and though doctors change or the patient enters the hospital or gets well or dies, it makes no difference to the chart. This continues unbroken and follows the patient wherever he goes. (See Fig. 6 in Course of Patient Through Hospital.) His malady is followed from the day he first comes to the dispensary, for years if need be, until a final verdict is reached under the follow-up system. All this is recorded on the one and only chart he ever has.

The advantages of such a system are obvious not only from the patient's point of view and from the standpoint of hospital efficiency, but also from the educational value to the physicians themselves. The doctor in the Out-Patient Department now not only has a complete record to go by, but all the data accumulated in the wards or in the operating room is thrust upon his attention when the patient returns to the dispensary for treatment. This is of the utmost value to any doctor in checking up his accuracy in diagnosis and in enabling him to judge more fully of the prognosis and real results of treatment. Only by this critical survey can we hope to increase our accuracy of observation and advance our methods of healing. The knowledge that the dispensary findings are part of a permanent record of the case constitutes a stimulus to careful work that at once results in higher standards and greater efficiency.

DUDLEY H. MORRIS, M. D.

STATISTICS OF NEOPLASMS FROM SURGICAL SERVICE.

A. P. Stout, M. D., and A. P. Phillips.

INTRODUCTION.

The following statistics have been gathered together chiefly for the purpose of recording the ultimate fate of patients who were treated in the surgical wards of the Out-Patients' Department of this Hospital for malignant neoplasms during the three-year period from August 1, 1914, to August 1, 1917. No cases have been included except those from which tissue has been removed and sent to the surgical pathological laboratory.

This period has been chosen because there has been in existence during this time a follow-up system on all ward cases, and because the data obtained by this system exists in an *easily accessible* form in the case histories. This alone has rendered it possible to make this compilation.

In addition to recording the results, certain other facts are tabulated about the cases which seem necessary to make the results of value. In the majority there has been noted the age, sex, duration of symptoms, chief complaint, type of operation or other therapeutic measures employed and presence or absence of metastases at the time of operation.

The cases whose course subsequent to leaving the Hospital we have been unable to ascertain are either the private patients of surgeons who have been called away by the war or ward patients who have left the city and who left no address behind them. It has been possible to get some data about all except these two classes of patients.

The more detailed statistics are prefaced by an analytical record of all the tumors that have reached the laboratory during the three year period under consideration. This is of value chiefly because it shows the type of distribution of *surgical* neoplasms and the relative proportion of neoplasms to other kinds of surgical material reaching a surgical laboratory. It must be clearly understood that this list does *not* represent the true distribution of neoplasms nor their true relations to one another. There are some neoplasms which because they are, for one reason or another, inoperable seldom reach a surgical pathological laboratory. Again it must be remembered that this Hospital has no regular skin, eye, ear, nose or throat departments so that tumors arising in these regions are represented sparsely or not at all. Another cause of inaccuracy in such a small series is the fact that if an attending surgeon of a hospital specializes in a certain type of cases he is apt to have more patients suffering from this lesion sent to him than would come to the hospital in the ordinary course of events. This will explain the disproportionately large number of epitheliomata of the larynx compared to other epitheliomata.

The analysis will serve, however, to give in a general way the anatomical and pathological distribution of surgical neoplasms as seen in a surgical pathological laboratory of a non-specializing hospital such as the Presbyterian.

As for the accuracy of the diagnoses it may be said that perhaps the majority of tumors can be accurately diagnosed by a microscopist of relatively limited experience. There are a certain number of difficult differential diagnoses which not even the expert of large experience can make. It is only by learning what happens to such cases that the correct diagnosis can be ascertained. There is bound to be a certain percentage of error therefore in any compilation but in a very large series this percentage becomes so small that it does not appreciably affect the value of the statistics.

The present series, however, is not large. Therefore it was realized that the greatest care must be exercised to reduce the percentage of error as much as possible. The microscopic slides of a large number of the neoplasms were reviewed with this end in mind and a certain number of probable errors were detected. It may be of interest to enumerate some of these errors made in the laboratory. Two sarcomas of the uterus had been called carcinoma. A case diagnosed as carcinoma of the stomach and considered inoperable was well and without symptoms eight months after operation. A ganglioneuroma of the retropleural tissue has been classified as a sarcoma. A syphilitic infection of a lymph node had been called sarcoma. Of three cases called carcinoma of the thyroid two were well and without recurrence or metastases two years, and one, one year after excision. The diagnoses of these thyroid cases was not the opinion of only one man. In one of the two-year cases the diagnosis had been confirmed by several competent pathologists. If we accept these diagnoses as correct and attempt to draw conclusions from them it would be possible to say that excision produces one hundred per cent of cures in cases of carcinoma of the thyroid; a very different result from that following excision of the tumor in carcinoma of every other glandular organ except the appendix. What seems much more probable is that the diagnosis is incorrect in at least two or possibly all these cases.

No doubt many will disapprove of the inclusion of such types of neoplasms as mixed tumor, papillary cysto-adenoma of the mammary gland, fibrosarcoma, giant celled sarcoma, etc., among the malignant tumors. No selection that could be made would be satisfactory to everybody because there are no generally accepted criteria for distinguishing between malignant and benign tumors. It has seemed better to include most of the disputed types particularly because these are the very ones about which our knowledge is most sketchy. It is hoped that in a future volume it may be possible to present the results of all the neoplasms that come to us. When this is done no attempt will be made to subdivide into benign and malignant so that those interested in this subdivision may make their own selection. After all the value of such statistics as these lies in the results shown rather than in the names used to describe them.

In regard to the classification terms used to describe the individual neoplasms certain explanations must be made. It is a great misfortune that so many and such varied terms are used by different authors to describe the same neoplasm. If one is describing a single neoplasm in detail it makes little difference what name is used provided the description is a good one because in that case each reader will be able to recognize the tumor and call it by the particular name to which he is accustomed. But with statistics it is only possible to use terms without giving detailed description in each case. This means that many of the names used may convey totally different ideas to the different individuals who read them. It seems essential therefore to give brief definitions of some of the terms used in this compilation in order to avoid confusion and misunderstanding. These definitions are given with great diffidence because it is feared that any attempt to be dogmatic will be misinterpreted. The writer is not so egotistical as to suppose that with his limited experience he can make definitions without making himself ridiculous. In spite of this it seems better to explain what some of the various terms used convey to his mind even though these definitions are wrong rather than risk the confusion which would result if the names used were misunderstood.

Definitions of Terms Used.

The following are definitions of adjectives which appear in the summary of connective tissue neoplasms:

A neoplasm is said to be *encapsulated* whenever there exists between it and the surrounding tissue a definite coat of compressed but *otherwise relatively normal* connective tissue.

A neoplasm is said to be *circumscribed* whenever there exists between it and the surrounding tissue a more or less definite coat of connective tissue *between the layers of which there may be found tumor cells.*

A neoplasm is said to be *infiltrating* whenever there exists no definite line of demarcation between it and the surrounding tissue.

Reflection will show that there is no real difference between the terms circumscribed and infiltrating because in the former the tumor cells actually infiltrate the surrounding coat of connective tissue. It is suggested that the reason for the recurrence of many apparently encapsulated (but really circumscribed) neoplasms which are removed by the "shelling out" process is that some of the tumor cells may be left behind when the layers of the circumscribing tissue are split apart.

The term *carcinoma* in this series is used to cover all malignant epithelial neoplasms of parenchymatous organs, all malignant glandular tumors of mucous membranes, and all solid malignant epithelial neoplasms of mucous membranes except those coming from stratified squamous epithelium. This definition is only approximate and has exceptions such as hypernephroma, etc.

The term *epithelioma* in this series is used to describe all the malignant epithelial neoplasms arising from the stratified squamous epithelium of the skin and mucous membrane that tend to reproduce all of the epithelial layers except the basal layer.

The term *basal celled epithelioma* in this series is used to describe all non-pigmented epithelial tumors that arise from the basal layer of stratified squamous epithelium or from the cells of the sweat or sebaceous glands or hair follicles.

In regard to the neoplasms arising from the derivatives of the neural ectoderm the following terms are used: *Neurocytoma* for those tumors that arise from the undifferentiated neurocytes of the cerebro-spinal system. *Malignant neuroblastoma* for those tumors that arise from the undifferentiated cells of the sympathetic system. *Ganglioneuroma* for those tumors that contain differentiated ganglion cells of the sympathetic or cerebro-spinal system. *Chromaffine tumors* for those neoplasms that consist of differentiated cells of the chromaffine system. The tumors arising from the supporting cells of the cerebro-spinal or sympathetic nervous system are classified together under the general term *glioma*.

The term *mixed tumor* in this series is used rather loosely to cover those tumors which contain atypical glands and cords of epithelial cells, embryonal connective tissue and sometimes atypical cartilage, in which there is little differentiation into specialized structures and organs such as is found in the teratomas and some dermoid cysts.

The term *fibrosarcoma* in this series is used to describe a neoplasm composed of spindle shaped connective tissue cells which are separated from one another by definite and easily discernible collagen fibrils. The cells tend to be arranged in interlacing bands as in a fibromyoma. Mitotic figures are rarely to be found. It covers that vague class of connective tissue tumors on the border line between the fibromas and the spindle celled sarcomas.

The term *endothelioma* in this series is used to describe a tumor containing many blood vessels with more or less distinct walls about which are arranged concentrically rounded or oval cells. Mitotic figures are rare or absent. A common site for the tumor is in the spinal or cerebral meninges. It is unknown whether the tumor cells come from the layers of the blood vessels, as the name would indicate, or not. It is retained, however, because long use has made it a familiar term and until its nature is definitely determined it is deemed inadvisable to introduce any new term.

The term *giant celled sarcoma* in this series is used to describe a neoplasm which is usually circumscribed but may be infiltrating. It is composed of atypical spindle shaped cells with more or less collagen fibrils between them as in the fibro-sarcoma, but in addition there are many multinucleated giant cells scattered about among the other cells at irregular intervals. The common sites of occurrence for these neoplasms are the gum, the periosteum of the phalanges of the fingers and the tendon sheaths of the fingers and medulla of bones. At times they contain brown pigment. They rarely show mitoses. When found in proximity to bone they may infiltrate it or erode it by pressure atrophy. Under this heading are included the so-called myeloid sarcomas.

The term *osteosarcoma* in this series is used to describe a neoplasm the characteristic feature of which is the formation of trabeculae of atypical bone. These are usually outlined with osteoblasts. The other cells forming the tumor may be large or small, round or spindle-shaped and there may be giant cells among them similar to those found in the giant-celled sarcoma. The tumor usually infiltrates as it grows and mitoses are usually found. It is usually found originating from a bone but may occur elsewhere.

The term *spindle celled sarcoma* in this series is used to describe a large vague class of tumors with no definite characteristics to identify the group except the shape of the cell. Any attempt to determine the malignancy by the relative size of the cells fails so that the adjectives "large" and "small" applied to the spindle cell sarcomata are of doubtful value. They vary greatly in their behavior but all are at least potentially and the majority positively malignant. Some of the criteria of malignancy are: (1) Absence or minimum amount of collagen fibrils between the cells; (2) irregularities in the size of the cells; (3) disorderly arrangement of the cells in their relation to one another; (4) the close proximity of the cells to one another; (5) numerous mitoses and atypical ones; (6) the presence of large blood vessels or blood spaces with their walls composed apparently of tumor cells. It should be said that the absence of any one or more of these conditions does not *per se* make the tumor one of low malignancy; it is merely stated that the more malignant of the spindle celled sarcomata studied showed usually more than one of them. They may occur where connective tissue or its derivatives are found. All that has been said of the spindle cell sarcomata applies to the *round cell sarcomata;* the cells of which, as the name implies, are round in shape and may be either large or small. It seems wiser not to make a separate heading for the round cell sarcoma that seems to originate in lymph glands and because of the morphological resemblance of its characteristic cells to lymphocytes is often called lymphosarcoma. It may arise from these cells but there is no proof that it does.

The term *melanoma* in this series is used to describe those malignant tumors, the cells of which may be round or spindle shaped and some of which at least contain granules of melanin pigment. They often arise in pigmented moles but may originate anywhere in the body. They usually grow rapidly and show many mitoses. They have been called melanocarcinoma or melanoepithelioma by those believing they are of epithelial origin and melanosarcoma by those who ascribe them to connective tissue origin.

Another type of malignant tumor the origin of which is in dispute is the large round cell tumor of the testicle. Under the microscope they show large masses of large rounded or cuboidal cells closely packed together and showing many atypical mitoses. Necrosis is common so that the various masses are usually separated from one another by areas of dead tissue. The individual cells are often separated from one another by extremely delicate fibrils taking the connective tissue stain. Since no indeterminate name is in use for these tumors, it is necessary to call them either carcinomata or sarcomata. It is our opinion that they are of epithelial origin and for purposes of classification they have been included among the carcinomata.

No separate provision is made for the so-called myxomata for the reason that it is believed in this laboratory that any connective tissue neoplasm may undergo a mucoid (myxomatous) or similar degeneration giving the characteristic gross and microscopic appearance of the so-called myxoma.

TUMORS EXAMINED IN THE SURGICAL PATHOLOGICAL LABORATORY, AUGUST, 1914—AUGUST, 1917

ADENOMATA, 8	
Gall Bladder	1
Thyroid gland	6
Hypophysis	1
ADENOFIBROMA, 21	
Uterus	4
F. m. g.	14
M. m. g.	2
F. tube	1
CYSTO-ADENOMA, 4	
Ovary	2
F. m. g.	2
PAPILLARY CYSTO-ADENOMA, 18	
Thyroid	1
Broad ligament	1
Ovary	9
F. m. g.	7
ANGIOMA, 11	
Capillary hemangioma	
Finger	1
Forehead	1
M. m. of mouth	1
Tongue	1
F. m. g.	1
Foot	1
Cavernous hemangioma	
Dorsum of foot	1
?	1
Lymphangioma	
Gluteal region	1
Tongue	1
Scap. region	2
CARCINOMA, 199	
Cecum	3
Ascend. colon	1
Hepat. flexure	1
Trans. colon	3
Splen. flexure	2
Desc. colon	2
Sigmoid	3
Not mentioned	1
	—
(Large Intestine)	16
Rectum	18
Gall bladder	4
Hepatic duct	1
Liver (metast.)	4
Peritoneum (metast.)	6
Stomach	23
Appendix	2
Lymph gland (met.)	1
Cervical l. gland	2
Thyroid gland	3
Hypophysis	1
Metast. in vertebra	1
Ovary	7
Uterus (body)	11
Prostate	4
Testicle	5

F. m. g.	87
M. m. g.	3

EPITHELIOMA, 60

M. m. of mouth	6
Tongue	4
Tonsil	1
Esophagus	2
Cervix uteri	16
Vulva	1
Larynx	5
Antrum of Highmore	2
Lower lip	8
Hand	1
Lat. neck region	4
Auricle	2
Arm	1
Face	2
Pelvis of kidney	1
Urinary bladder	4

BASAL CELLED EPITHELIOMA, 7

Foot	1
Face	6

CHONDROMA, 2

Metacarpal	1
Phalanx	1

DENTIGEROUS CYST, 1

Maxilla	1

DERMOID CYST, 16

Ovary	10
Anal region	1
Eyelid	2
??	2
Face	1

ENDOTHELIOMA, 3

Spinal cord	1
Spinal meninges	2

EXOSTOSIS, 7

Os calcis	1
Scapula	1
Ulna	1
Humerus	2
Metatarsal	1
Tibia	1

FIBROMA, 25

Intestine	1
Rectum	1
M. m. of mouth	1
Tongue	1
Ovary	1
F. m. g.	2
Tendon of finger	1
Forearm region	1
mammary region	1
Hand	1
Region ?	5
Thigh	2
Lip	2
Neck	1
Vulva	1
Calcaneal region	2
Scalp	1

FIBROMYOMA, 155

Ovary	2
Cervix	4
Uterus	144
Broad ligament	1
Spermatic cord	1
???	1
Vagina	1
Epididymis	1

INTRACANALICULAR FIBROMA, 23

F. m. g.	23

GLIOMA, 1

Cerebellum	1

HYPERNEPHROMA, 1

LIPOMA, 36

Cecum	1
Arm	3
Back	2
Forehead	1
Lat. neck reg.	3
Chest wall	3
Inguinal reg.	1
Multiple lipoma	2
Shoulder	5
Region ?	12
Lat. abdom. reg.	1
Leg	2

MELANOMA, 4	
Lat. neck reg.	1
Abdominal reg.	1
Leg	1
Great Toe	1
MIXED TUMOR, 14	
Parotid gland	10
Back	1
Upper lip	1
Retroper. tis.	1
Testicle	1
MOLE, 10	
NEUROBLASTOMA, 1	
Ganglioneuroma	1
OSTEOMA, 9	
(included Osteo-chondroma)	
Humerus	1
Os calcis	1
Orbital reg.	1
Femur	4
Phalanx	1
Mandible	1
PAPILLOMA, 19	
Tongue	1
Anal region	1
Region?	1
Rectum	1
Cervix	1
M. m. of mouth	1
Penis	1
Chest wall	1
Abdomen	1
Lower lip	1
Face	2
Foot	1
Scalp	1

Vulva	1
Urinary blad.	4
POLYP, 33	
Uterus	7
Cervix	19
Rectum	6
Urinary blad.	1
SARCOMA, 34	
Spindle cell, 13	
Scapula	1
Trachea	1
F. m. g.	1
Poplit. reg.	2
Mammary reg.	1
Lat. crural reg.	2
Trochanteric	1
Ilium	1
Uterus	3
Round cell, 6	
Maxilla	2
Small intest.	1
Calcan. reg.	1
Temporal musc.	1
Pleura	1
Fibrosarcoma, 3	
Abdominal wall	2
Femoral region	1
Giant cell sarcoma, 5	
(Epulis)	
Gum	2
Finger	3
Osteosarcoma, 7	
Tibia	1
Femur	1
Occipital bone	1
F. m. g.	1
Mandible	2
Lumbar region	1

CARCINOMAS AND SQUAMOUS EPITHELIOMAS IN ORDER OF FREQUENCY

Mammary gland	90
Uterus	27
Stomach	23
Rectum	18
Rest of large intestine	16
External surface of body	11
M. m. of mouth (inc. tongue and tonsil)	11
Lower lip	8
Ovary	7

SARCOMAS IN ORDER OF FREQUENCY

External surface of body	14
Bone	9

TOTAL SPECIMENS RECEIVED IN LABORATORY DURING 3-YEAR PERIOD	3946
TOTAL TUMORS	722—18.3% of all specimens
Malignant Tumors	332—8.4% of all specimens—45.9% of all tumors
MALIGNANT EPITHELIAL TUMORS (Carcinoma, melanoma, epithelioma, basal celled epithelioma, hypernephroma, papillary cystoadenoma of broad ligament and ovary, ganglioneuroma)	294—88.55% of malignant tumors
MALIGNANT CONNECTIVE TISSUE TUMORS (Sarcoma, glioma, endothelioma)	38—11.45% of malignant tumors

(The mixed tumors have been ignored in figuring percentages).

TUMORS IN FEMALE ORGANS OF GENERATION

TOTAL TUMORS OF UTERUS	
Adenofibroma	4
Carcinoma	11
Epithelioma	16
Fibromyoma	148
Papilloma	1
Polyp	26
Sarcoma	3
	209

TOTAL TUMORS OF OVARY	
Cysteadenoma	2
Papillary Cysteadenoma	9
Carcinoma	7
Dermoid Cyst	10
Fibroma	1
Fibromyoma	2
	31

TOTAL TUMORS OF TUBE	
Adenofibroma	1

TOTAL TUMORS OF BROAD LIGAMENT	
Papillary Cystoadenoma	1
Fibromyoma	1
	2

TOTAL TUMORS OF VAGINA & VULVA	
Epithelioma	1
Fibroma	1
Fibromyoma	1
Papilloma	1
	4

TOTAL TUMORS OF FEMALE MAMMARY GLAND

Adenofibroma	14
Cystoadenoma	2
Pap. Cystoadenoma	7
Capillary Hemangioma	1
Carcinoma	87
Fibroma	2
Intracanal. Fibroma	23
Sarcoma	2
	138

Grand Total........385—53.3% of all tumors.

TUMORS OF ALIMENTARY TRACT

TOTAL TUMORS OF MUCOUS MEMBRANE OF MOUTH & TONGUE (INCLUDING LIPS)

Capillary Hemangioma	2
Lymphangioma	1
Epithelioma	18
Fibroma	4
Mixed tumor	1
Papilloma	3
Sarcoma	2
	31

TOTAL TUMORS OF SALIVARY GLANDS

Mixed tumor	10

TOTAL TUMORS OF PHARYNX AND TONSILS

Epithelioma	1

TOTAL TUMORS OF ESOPHAGUS

Epithelioma	2

TOTAL TUMORS OF STOMACH

Carcinoma	23

TOTAL TUMORS OF LIVER

Carcinoma metastatic	4

TOTAL TUMORS OF GALL BLADDER AND BILE PASSAGES

Adenoma	1
Carcinoma	5
	6

TOTAL TUMORS OF PANCREAS 0

TOTAL TUMORS OF SMALL INTESTINE

Fibroma	1
Sarcoma	1
	2

TOTAL TUMORS OF LARGE INTESTINE

Carcinoma	16
Lipoma	1
	17

TOTAL TUMORS OF APPENDIX

Carcinoma	2

TOTAL TUMORS OF RECTUM

Carcinoma	18
Fibroma	1
Papilloma	1
Polyp	6
	26

TOTAL TUMORS OF PERITONEUM, MESENTERY, OMENTUM AND RETROPERITONEAL TISSUE

Carcinoma (metastatic)	6
Mixed tumor	1
	7

Grand Total........131—18.1% of all tumors.

TUMORS OF TEGUMENTARY SYSTEM

(Skin and subcutaneous tissues)

Hemangioma	3	Melanoma	4
Lymphangioma	3	Mixed tumor	1
Epithelioma	10	Mole	10
Basal celled Epithelioma	10	Papilloma	7
Dermoid cyst	4	Sarcoma	14
Fibroma	9		—
Lipoma	23		95

Total........95—13.2% of all tumors.

TUMORS OF BONES, CARTILAGES AND JOINTS

Carcinoma (metastatic)	1	Osteoma	9
Chondroma	2	Sarcoma	9
Dentigerous cyst	1		—
Exostosis	7		29

Total........29—4.2% of all tumors.

TUMORS OF URINARY SYSTEM AND MALE ORGANS OF GENERATION

(Includes male mammary gland)

Ademofibroma	2	Mixed tumor	1
Carcinoma	12	Papilloma	5
Epithelioma	5	Polyp	1
Fibromyoma	2		28

Total........28—3.9% of all tumors.

TUMORS OF DUCTLESS GLANDS

(Including lymph glands, thyroid, hypophysis, adrenal)

Adenoma	7	Carcinoma (metastatic)*	3
Pap. Cystoadenoma	1		—
Carcinoma	4		15

Total........15—2% of all tumors.

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*Metastases in lymph glands when the tumor of origin is known are not included here.

TUMORS OF RESPIRATORY SYSTEM

Epithelioma	7
Sarcoma	2
	9

Total........9—1.2% of all tumors.

TUMORS OF NERVOUS SYSTEM

Endothelioma	3
Glioma	1
Ganglioneuroma	1
	5

Total........5—0.6% of all tumors.

TUMORS OF MUSCLES, TENDONS AND BURSAE

Fibroma	1
Sarcoma	1
	2

Total........2—0.3% of ali tumors.

TUMORS (Region Unknown)

(Probably most of these belong under the head of skin and subcutaneous tissues)

Angioma	1
Dermoid Cyst	2
Fibroma	5
Fibromyoma	1
Lipoma	12
Papilloma	1
	22

Total........22—3% of all tumors.

UNCLASSIFIED TUMORS

Hypernephroma	1
Total Number of Malignant Tumors with known Results	274
Alive without Metastases or Recurrence	91—33.2%
Alive with Metastases or Recurrence	75—27.4%
Died	108—39.4%

(Papillary Cystoadenoma of breast and Mixed Tumors not included).

PAPILLARY CYSTOADENOMA OF FEMALE MAMMARY GLAND.—AUGUST 1, 1914–AUGUST 1, 1917

Number	*Age*	*Duration of Symptoms*	*C. Complaint*	*Operation*	*Metast. at Op.*	*Result*
16274	50	5 months	Lump in breast	Simple mastectomy	O	3 years P.O. no recurrence
16289	72	6 months	Swelling;bloody discharge from nipple	Com. mastectomy	O	3 years P.O. no recurrence
16708	40	7 months	Lump in breast	Excision of tumor	O	3 months P.O. no recurrence
18812	37	5 years	Lump in breast	Radical mastectomy	O	4 months P.O. no recurrence
18912	35	3 months	Lump in breast	Excision of tumor	O	8 months P.O. no recurrence
19056	16	3 months	Lump in breast	Excision of tumor	O	No recurrence 2 years P.O.
19305	42	3 months	Lump in breast	Simple mastectomy	O	

Average age ....41.7 years
Oldest 72
Youngest 16

Alive without recurrence or metastases	0–1 years	3
	1–2 years	1
	2–3 years	2
Unknown		1
		7

PAPILLARY CYSTOADENOMA OF OVARY

Number	*Age*	*C. Complaint*	*Duration of Symptoms*	*Operation*	*Metast. at Op.*	*Result*
16755	20	Swelling of abdomen	2 months	Rt. Salpingoophorectomy	O	$1\frac{1}{2}$ years P.O. improved
16829	28	Metrorrhagia, pain	11 weeks	(1) Enucleation of ovarian cyst Myomectomy (2) Explor. Celiotomy Excision of cyst	O	2nd operation, two years later, for possible recurrence No recurrence found
17004	45	Pain, swelling of abdomen	4 months	Rt. Oophorectomy	O	Recurrence 4 months P.O.
17078	50	Tumor of abdomen	5 months	Lt. Salpingoophorectomy	+	
18378	51	Continuous menstruation	10 weeks	Oophorectomy	O	18 months P.O. no recurrence

PAPILLARY CYSTOADENOMA OF OVARY—*continued*

Number	*Age*	*C. Complaint*	*Duration of Symptoms*	*Operation*	*Metast. at Op.*	*Result*
19462	46	Lump in abdomen, pain, metrorrhagia	3 years	Explor. Celiotomy (inop.)	+	Worse 3 months P.O.
19507	52	Swelling of abdomen	4 months	Com. Oophorectomy, bilat.	O	
19560	40	Prolonged menstruation	2 years	Supravag, hysterectomy Salpingectomy, bilat. Rt. Oophorectomy	O	
19866	48	Enlargement of abdomen	3 months	Aspiration of cyst (inoperable)	+	Worse 5 months P.O.
		Loss of weight	7 months			

CYSTOADENOMA OF OVARY

16788	44	Pain in abdomen	1 year	Rt. Salpingoophorectomy	O	
18863	54	Headache	8 years	Lt. Salpingoophorectomy	O	3 months P.O. unimproved

PAPILLARY CYSTOADENOMA OF BROAD LIGAMENT

19872	29	Pain in abdomen	3 months	Salpingectomy, bilat	O	10 months P.O. no recurrence
		Acute pain	5 days	Oophorectomy, lt.		
				Excision of cyst of broad ligament		

PAPILLARY CYSTOADENOMA OF OVARY AND BROAD LIGAMENT, CYSTOADENOMA OF OVARY

Average age . . . . 42.25 years
Youngest 20
Oldest 54
Alive without recurrence or metastasis. . . . .3—37.5 per cent
Alive with recurrence or metastasis. . . . . . . .5—62.5 per cent
Unknown. 4

CARCINOMA OF LARGE INTESTINE.—AUGUST, 1914–AUGUST, 1917

Number	*Sex*	*Age*	*Position of Tumor*	*Type*	*C. Complaint*	*Duration*	*Operation*	*Metast. at Op.*	*Result*
19946	M	66	In colon (intussus) (started in ileocecal region)	Colloid	Diarrhea	4 mos.	Par. Enterocolectomy Enterocolostomy (S to S)	0	Died 1 day P.O.
19406	F	76	In cecum	Colloid	No history	—	Par. Enterocolectomy Enterocolostomy (E to S)	0	Died 21 days P.O.
18457	F	62	In ascending colon	Adeno	Pain	2 years	Par. Enterocolectomy Enterocolostomy (S to S)	0	Died 3 days P.O.
18219	M	44	At hepatic flexure (Syphilis)	Adeno	Pain, vom.	4 days	Par. Enterocolectomy Enterocolostomy (E to E)	0	F.U. 11 months P.O. No recurrence
17144	F	51	Mid. trans. colon	Adeno	Constipation	4 mos.	Par. Colectomy Colocolostomy (E to E)	0	No recurrence F.U. 2½ years P.O.
17260	F	38	In trans. colon	Adeno	Pain; constip.	2 years	Par. Colectomy Colostomy by suture	0	Died; metastases F.U. 11 mos. P.O.
17911	F	36	In splenic flexure	Adeno	Constipation	2 years	Par. Colectomy Colocolostomy (S to S)	0	No F.U.
19712	F	58	In splenic flexure (metast. in l. g.)	Adeno	Con. Fec. vom.	1 year	Par. Colectomy. M. button Colocolostomy (E to E)	+	Died 2 days P.O.
19970	F	59	In descending colon	Adeno	Rectal hem.	6 mos.	Par. Colectomy Colocolostomy (E to E)	0	5 months P.O. no recurrence
16624	M	70	In sigmoid	Adeno	Pain, vom.	2 weeks	Par. Colectomy Colocolostomy (E to E)	+	Unimproved F.U. 2 years P.O.
16110	M	48	Mid. sigmoid flexure	Adeno	Pain; constip.	16 mos.	Par. Colectomy (type ?) Proctectomy	0	Died 5 days P.O.
19433	F	53	In sigmoid flexure	Colloid	Bleeding from rectum	5 mos.	Par. Colectomy Colocolostomy (E to E)	0	No recurrence F.U. 8 months P.O.

CARCINOMA OF LARGE INTESTINE—INOPERABLE

Number	*Sex*	*Age*	*Position of Tumor*	*Type*	*C. Complaint*	*Duration*	*Operation*	*Metast. at Op.*	*Result*
18275	M	45	Descending colon	Adeno	Pain and mass	8 weeks	Exploratory Celiotomy	+	Died 3 weeks P.O.
17612	M	51	Transverse colon	Adeno	Pain; vomiting	5 mos.	Enterocolostomy (S-S) Par. Epiploectomy	+	Died 15 days P.O.
17802	M	59	Metastases in scar (Colostomy 4 mos. ago)	Adeno	No movement per rectum	—	Exploratory Celiotomy Colostomy	+	Died 4 months P.O.
18596	F	51	Bet. cecum and colon	Adeno	Vague	6 weeks	Enterocolostomy (S-S)	?	Died 43 days P.O.

16 Cases
12 Radical operations
4 Palliative operations

POSITION OF TUMOR

Cecal region	3
Ascending colon	1
Hepatic flexure	1
Transverse colon	3
Splenic flexure	2
Descending colon	2
Sigmoid	3
Not mentioned	1

CHIEF COMPLAINT

Pain	7
Constipation	6
Vomiting	4
Bleeding from rectum	2
Diarrhea	1
Tender mass	1
Fecal fistula	1
Vague	1

ANASTOMOSES

Average age		54.2 years	
Oldest		76	
Youngest		36	
Male		7	
Female		9	
Died	0– 2 months	8	66.67 per cent
	4–11 months	2	
Alive with metastases	2 years	1	6.66 per cent
Alive without metastases	5 months	2	26.67 per cent
	11 months	1	
	$2\frac{1}{2}$ years	1	
	Unknown	1	
		16	

Enterocolostomy:

Suture	1
End to end .M. button	1
Side to side	4
End to side	1

Colocolostomy:

End to end	4
Side to side	1

CARCINOMA OF RECTUM.—AUGUST 1, 1914–AUGUST 1, 1917

(Colostomy and Proctectomy)

Number	*Age*	*Sex*	*Distance from Anus*	*Time bet. Op.*	*Type*	*Metast. at Op.*	*Result*
18936	41	F	3 inches	10 days	Per.	O	No recurrence 15 months P.O.
19741	27	F	High in rectum; adherent to sigmoid	2½ weeks	Sac.	O	Died
17233	42	F	Within anus	3 weeks	Per.	+	Died 21 months P.O.
17319	45	M	5 inches	1 week	Sac	+	Died
16111	51	F	About 2 inches	2 weeks	Sac.	O	No recurrence 2¾ years P.O.
16380	66	M	1½ inches	1 week	Per.	O	
17019	56	F	3 inches	Together	Per.	O	
17755	35	F	1½ inches	2 weeks	Sac	O	7 months later operation for recurrence in vaginal wall; half year after second operation no recurrence.

Prostectomy Alone

Number	*Age*	*Sex*	*Distance from Anus*	*Time bet. Op.*	*Type*	*Metast. at Op.*	*Result*
17913	62	M	Left side of anus	—	Per.	O	Recurrence 23 months P.O.
17996	57	M	At anal margin	—	Sac.	O	Died
18179	60	M	4 inches	—	Per.	O	
18322	32	F	2½ inches	—	Per.	O	

No Radical Operation

Number	*Age*	*Sex*	*Distance from Anus*	*Time bet. Op.*	*Type*	*Metast. at Op.*	*Result*
17763	55	M	Within anus	—	Removal of specimen ing. colostomy	0	Died
17432	41	F	—	—	Excision of cervical glands	+	Proctectomy 5 years before; died 4 months after second operation
18037	63	F	4 inches	—	Colostomy		Half year P.O. is in Incurables' Home

CARCINOMA OF RECTUM—*continued*

Number	*Age*	*Sex*	*Distance from Anus*	*Time bet. Op*	*Type*	*Metast. at Op.*	*Result*
18547	36	M	Peritoneum studded everywhere	—	Explor. Laparotomy	+	Died 7 months P.O.
19096	60	F	2½ inches	—	Biopsy	?	3 months P.O. very ill
17316	60	M	Surrounded anus	—	Cauterization	?	Died 5 months P.O.

Adeno carcinoma	17
Basal cell carcinoma (17233)	1
Females	10
Males	8
Perineal Proctectomy	7
Sacral Proctectomy	5
Lymph glands involved:	
Prevertebral	1
Cervical	1
Extension:	
Vaginal wall	1
Prostate	1
Sigmoid	1
Peritoneum	1

18 Cases (14 with follow-up notes)

Died—Immediately	4	57.2 per cent
0– 6 months	1	
6–12 months	1	
1– 2 years	1	
5½ years	1	
	—	
	8	

Alive with recurrence or metastases:

0–6 months	2	21.4 per cent
1–2 years	1	
	—	
	3	

Alive without recurrence or metastases:

1–2 years	2	21.4 per cent
2–3 years	1	
	—	
	3	

Average age	49.4 years
Oldest	66
Youngest	27
Male	8
Female	10

EPITHELIOMA OF MUCOUS MEMBRANE OF MOUTH, PHARYNX, LARYNX AND ACCESSORY SINUSES

AUGUST, 1914–OCTOBER, 1917

Number	*Sex*	*Age*	*Situation of Tumor*	*Type*	*Duration*	*Metast. at Op.*	*Nature of Operation*	*Result*
16322	M	47	Larynx	Squamous	4 months	O	Tracheotomy and excision of tumor	Recurrence 7 mos. P.O. (refused operation)
16379	M	59	Larynx	Cuboidal	8 months	O	Tracheotomy and Com. Laryngectomy	Died 8 mos. P.O.
16727	M	40	Larynx	Squamous	2 years	O	(1) Tracheotomy, Thyrotomy and excision of tumor	Recurrence 3 mos. P.O.
							(2) Complete Laryngectomy	Died about $1\frac{1}{2}$ yrs. P.O.
17781	M	56	Larynx	Squamous	14 months	O	(1) Tracheotomy (2) Com. Laryngectomy	Becoming worse 1 yr. P.O.
17847	M	63	Larynx	Squamous	5 years	+	Tracheotomy (inoperable)	No F.U.
19238	M	64	Cheek	Squamous	5 months	O	Submax. Adenectomy and excision of tumor	Recurrence 10 mos. P.O
17632	M	55	Cheek	Original basal cell, met. squamous	6 months	+	Par. Ostectomy of mandible and partial removal of cheek	Died 1 month P.O.
19108	M	78	Cheek	Squamous	8 months	O	Excision of specimen (inoperable)	
17945	M	62	Gum	Squamous	1 year	O	Par. Ostectomy of maxilla	No F.U.
17197	F	62	Hard Palate	Squamous	3 months	O	Par. Ostectomy of maxilla and Ostectomy of inferior turbinate bone	$2\frac{3}{4}$ years P.O. no recurrence
17692	M	57	Tonsil	Squanous	3 months	+	Incision and drainage (inoperable)	Died 11 days P.O.
16987	F	46	Antrum of High	Squamous	7 weeks	O	Par. Ostectomy of maxilla	No F.U.
18690	F	55	Antrum of High	Squamous	6 weeks	O	Par Ostectomy of maxilla	13 mos. P.O. no recur.
19488	M	59	Gum	Squamous	3 months	O	Removal of specimen	Unimproved; in Home 10 months P.O

EPITHELIOMA OF MUCOUS MEMBRANE OF MOUTH, PHARYNX, LARYNX AND ACCESSORY SINUSES—*continued*

Larynx	5
Cheek	3
Gum	2
Antrum	2
Hard Palate	1
Tonsil	1
	14

Male	11
Female	3
Average age	57.4 years
Oldest	78
Youngest	40

Died—11 days	1	36.4 per cent
1 month	1	
8 months	1	
$1\frac{1}{2}$ years	1	
	4	

Alive with recurrence—3 months	1	45.4 per cent
$\frac{1}{4}$–1 year	4	
	5	

Alive without recurrence—13 months	1	18.2 per cent
$2\frac{3}{4}$ years	1	
	2	

Total	11
Lost	3
	14

CARCINOMA OF GALL BLADDER AND BILIARY PASSAGES

Number	*Sex*	*Age*	*Situation*	*C. Complaint*	*Dur. of Symptoms*	*Operation*	*Metast. at Op.*	*Result*
16728	F	57	Gall bladder	Abdominal pain; jaundice	4 months	Inoperable	+	Died 23 days P.O.
17253	M	48	Gall bladder	Abdominal tumor; 1 year pain; jaundice	3 years	Mass was in scar of old cholecystectomy op.	+	Case lost
18647	F	50	Gall bladder	Pain in RUQ, jaundice	5 weeks	Excision of specimen	+	Died $1\frac{1}{2}$ mos. P.O.
19289	F	51	Hepatic duct	Jaundice	5 months	Excision of specimen	O	
19822	F	52	Gall bladder	Acute cholecystitis	1 day	(1) Cholecystectomy (2) 2 months P.O. excision of nodule	O	Persistent biliary fistula unimproved

Female	4
Male	1
Average age	51.6 years
Oldest	57
Youngest	48

Died—0-2 months	2—$66\frac{2}{3}$ per cent
Alive with recurrence	1—$33\frac{1}{3}$ per cent
Unknown	2
	5

EPITHELIOMA OF LOWER LIP

Number	*Sex*	*Age*	*Type of Operation*	*Metast. at Operation*	*Result*
16304	F	67	Excision of tumor	0	No recurrence 2 years P.O.
16511	M	73	Excision, glands both sides	0	No recurrence 3 years P.O.
16534	M	60	Excision, gland one side	0	No recurrence 3 years P.O.
17544	M	57	Excision of tumor	0	No recurrence 1½ years P.O.
18009	M	51	Excision of tumor	0	Recurrence 1 year P.O. in submax. nodes.
19254	M	50	Excision, gland one side	0	No recurrence 4 months P.O.
19500	M	65	Excision of specimen	0	
20012	M	41	Excision, gland one side (recurrent)		Three weeks P.O. recurrence in glands on opposite side of neck. Operation at once and four mon hs later recurrence in scar

Died	0	
Alive without recurrence:		
4 months	1	71.4 per cent
1–2 years	2	
3 years	2	
Alive with recurrence:		
4 months	1	28.6 per cent
1 year	1	
Unknown	1	
	8	

Average age	58 years
Oldest	73
Youngest	41
Male	7
Female	1

EPITHELIOMA OF TONGUE

Number	*Sex*	*Age*	*Site*	*Type of Operation*	*Metast. at Op.*	*Result*
17633	M	42	Near tip	Excision right half of tongue and gland one side	0	
17694	M	70	At base	Excision of tumor and glands both sides	+	Died in hospital (pneumonia)
17663	M	51	Near base	Excision left half of tongue and glands one side	+	Died in hospital (pneumonia)
19022	M	48	Frenum rt.	Excision two-thirds of tongue and glands both sides	+	Excision of recurrence 9 months P.O. Died; recurrence 1 year after second operation

Died of operation	2	100 per cent
Died in 1¾ years	1	
Unknown	1	
	4	

Average age	52 years
Oldest	70
Youngest	42
Male	4
Female	0

CARCINOMA OF STOMACH—AUGUST 1, 1914–AUGUST 1, 1917

Operable

Number	*Sex*	*Age*	*Chief Complaint*	*Dur. of Sympt.*	*Site of Growth*	*Operation*	*Type*	*Metast. at Op.*	*Result*
16530	F	62	Pain	10 mos.	—	—	—	—	Metastases
			Indigestion	25 yrs.	Pylorus	Par. Gastrectomy	Adeno	O	Died 2½ years P.O.
16610	F	39	Lump in abdomen	6 mos.	Pylorus duodenum	Par. Gastrectomy	Adeno	+	General metastases; died 1½ years P.O.
16825	M	62	Pain; vomiting; loss of weight	7 mos.	Pylorus	Par. Gastrectomy	Alveol.	O	Died 30 hours P.O. broncho-pneumonia
17290	M	4	Pain; loss of weight	9 mos.	Pylorus	Par. Gastrectomy	Alveol.	O	No apparent recurrence 1 year P.O.
17430	M	48	Stomach trouble	16 yrs.	Lesser curvature	Par. Gastrectomy	Alveol.	+	Recurrence in wound 1¾ years P.O.
			Pain; loss of weight	6 mos.					
17903	F	62	Pain; vomiting; loss of weight	13 mos.	Pylorus	Par. Gastrectomy	Adeno	+	Died 10 hours P.O. from shock
18458	F	66	Pain; vomiting	2 mos.	Pylorus	Par. Gastrectomy	Adeno	+	No recurrence 1 year P.O.
19115	M	56	Pain	1 mo	Lesser curvature	Par. Gastrectomy	Alveol.	+	Died 36 hours P.O. urinary suppression
19623	M	57	Pain; loss of weight	6 mos.	Diffuse nodules around mid-stomach causing hour glass cons.	Par. Gastrectomy Gastroenterostomy	Adeno	O	Died at operation
19781	F	49	Pain; Vomiting	10 yrs 1 mo.	Pylorus	Par. Gastrectomy	Alveol.	+	No recurrence 7 mos. P.O.

Inoperable

Number	*Sex*	*Age*	*Chief Complaint*	*Dur. of Sympt.*	*Site of Growth*	*Operation*	*Type*	*Metast. at Op.*	*Result*
17113	F	29	Pain; vomiting	2 yrs.	Great curvature	Gastroenterostomy	Adeno	+	Died 6 mos. P.O.
17252	F	47	Vomiting	1 yr.	Cardiac end	Gastrostomy	Alveol.	+	Died 2 months P.O.
17848	M	67	Pain, anorexia	6 mos.	Lesser curvature	Excision of gland	Adeno	+	Died 5 months P.O.

CARCINOMA OF STOMACH—*continued*

Inoperable—*continued*

Number	*Sex*	*Age*	*Chief Complaint*	*Dur. of Sympt.*	*Site of Growth*	*Operation*	*Type*	*Metast. at Op.*	*Result*
17933	M	42	Vomiting; loss of weight	1 yr.		Excision of gland	Alveol.	+	Died 18 days P.O.
18014	M	58	Pain; loss of strength	6 mos.	Lesser curvature	Excision of gland	Adeno (Colloid)	+	Worse 6 months P.O.
18108	M	39	Ascites (gastro-jejunostomy $2\frac{1}{2}$ yrs. ago)	10 days		Excision of specimen	Alveol.	+	
18136	M	34	Pain	3 yrs.	Pylorus	Gastroenterostomy	Adeno	+	Died 6 months P.O.
18263	F	52	Pain	3 yrs.		Excision of gland	Adeno	+	Died 6 months P.O.
18562	M	36	Pain	2 yrs.	Lesser curvature	Excision of gland	Adeno	+	Died 1 month P.O.
19034	M	51	Pain	4 weeks	Pylorus	Excision of specimen	Adeno	+	Died 7 weeks P.O
19302	M	52	Vomiting; pain	6 mos.	Lesser curvature	Gastroenterostomy	Adeno	.	8 months P.O. well; no sym.
19481	M	41	Pain	4 yrs.	Lesser curvature	Gastroenterostomy	Adeno	+	Died 7 months P.O.
19595	M	32	Fullness; distention; loss of weight	8 mos.	Pylorus	Excision of gland	Alveol.	+	Died 2 weeks P.O.

Males.. 15 Operable.....10; with metastases at time of operation in 6

Females.. 8 Inoperable....13; with metastases at time of operation in 12

Average age..................................48.34 years

Youngest...................................... 29

Oldest...67

OPERABLE

Alive without recurrence 1 year	2
Alive with recurrence $1\frac{3}{4}$ years	1
Died from operation	4
Died with metastases $1\frac{1}{2}$ years P.O.	1
Died with metastases $2\frac{1}{2}$ years P.O.	1
Unknown	1
	10

INOPERABLE

Alive without symptoms 8 months P.O.	1
Alive and worse 6 months P.O.	1
Died—0 1 month P.O.	3
Died—1–3 months P.O.	2
Died—3 6 months P.O.	4
Died—7 months P.O.	1
Unknown	1
	13

OPERABLE

Alive with recurrence or metastases	1– 11.11 per cent
Alive without recurrence or metastases	2 – 22.22 per cent
Died	6 –66.67 per cent

INOPERABLE

Alive	2—16.7 per cent
Died	10 83.3 per cent

Combined Results of 21 Cases with Known Results:

Alive without recurrence or metastases	2— 9.5 per cent
Alive with recurrence or metastases	3—14.3 per cent
Died	16—76.2 per cent

CARCINOMA OF APPENDIX. AUGUST, 1914 AUGUST, 1917

Number	*Age*	*Sex*	*Result*
16864	23	F	No recurrence 2 years P.O.
19284	41	F	No recurrence 1 year P.O.

CARCINOMA OF THYROID GLAND

Number	*Age*	*Sex*	*Dur. of Symptoms*	*Chief Complaint*	*Operation*	*Metast. at Op*	*Result*
16124	18	F	3 years	Tumor of neck	Partial Thyroidectomy	O	2 years P.O. no recurrence
18417	48	F	20 years	Swelling of neck	Partial Thyroidectomy	O	19 months P.O. no recurrence
19101	42	F	3 years	Lump in neck	Partial Thyroidectomy	O	1 year P.O. no recurrence

CARCINOMA OF OVARY.—AUGUST 1, 1914–AUGUST 1, 1917

Operable

Number	*Age*	*Dur. of Sympt.*	*Chief Complaint*	*Operation*	*Type of Tumor*	*Metast. at Op.*	*Result*
16211	38	2 months	Swelling of abdomen	Bilat. Salping. unilat. Oophor.	Adeno	O	Died 3 months P.O.
17506	37	2 months	Pain in abdomen; loss of weight	Rt. Salpingo-Oophorectomy	Adeno	O	Died 1 year P.O.
18745	42	2 months	Nausea	Salpingo-Oophorectomy, bilat.	Adeno	+	Died 6 weeks P.O.
19054	43	1 year	Pain in back	Pan. Hysterect.	Adeno	O	1 month P.O. operated for carcinoma of ascending colon (extended from ovary)
19470	16	1 month	Swelling of abdomen	Oophorectomy	Alveolar	O	No recurrence $\frac{1}{2}$ year P.O.

Inoperable

Number	*Age*	*Dur. of Sympt.*	*Chief Complaint*	*Operation*	*Type of Tumor*	*Metast. at Op.*	*Result*
16129	52	---	—	Partial Epiploectomy	Adeno	+	Died 6 months P.O.
19102	56	6 months	Pain in abdomen	Partial Oophorectomy	Alveolar	+	Died 4 months P.O.

Average age	40.6 years	Alive with recurrence	1	14.3 per cent
Oldest	56	Alive without recurrence	1	14.3 per cent
Youngest	16			
Died 0 6 months 4 1 year 1	71.4 per cent		7	

MALIGNANT EPITHELIAL TUMORS OF THE UTERUS

Carcinoma of Uterus—Operable

Number	*Age*	*Chief Complaint*	*Duration of Symptoms*	*Type of Operation*	*Type*	*Metast. at Op.*	*Result*
17040	55	Bloody discharge	3 months	Com. Hysterectomy	Adeno	?	Died 13 days P.O. (ac. ileus)
16557	48	Bloody discharge	6 years	Com. Hysterectomy	Adeno	0	2 years P.O. improved
18036	55	Bloody discharge; pain in abdomen	4 months	Com. Hysterectomy	Adeno	?	1 year P.O. no recurrence
18424	59	Bloody discharge; pain in abdomen	4 months	Hysterectomy	Adeno	0	No definite evidence of recurrence 1 year P.O.
19189	37	Bleeding	3 years	(1) Hysterectomy Salpingectomy, bilat. Oophorectomy, right (2) Radium application	Adeno	0	4 months later, operation for return of discharge 6 months after second operation general metastases
19827	51	Bloody discharge	8 months	Com. Hysterectomy Radiotherapy	Adeno	0	3 months P.O. operation for vesico-vaginal fistula
19552	49	Pain in abdomen (breast removed 2 yrs. ago for carcinoma)	6 weeks	Com. Hysterectomy Radium	Adeno	?	3 months P.O. appears well (Radiotherapy)
17719	64	Bloody discharge	1 year	(1) Com. Hysterectomy (2) Cauterization of vagina	Adeno	0	Recurrence immediately in vaginal wall; removed 2 years later 4½ years after first operation improved

Carcinoma of Uterus Inoperable

Number	*Age*	*Chief Complaint*	*Duration of Symptoms*	*Type of Operation*	*Type*	*Metast. at Op.*	*Result*
16796	54	Bloody discharge	2 years	Exploratory Celiotomy Curettage	Adeno	.	Died 4 months P.O.
17388	50	Bloody discharge	2 months	Curettage; Par. Colpectomy	Adeno	+	Died 1 year P.O.
19091	51	Bloody discharge	5 months	Curettage	Adeno	?	Died 6 months P.O.

MALIGNANT EPITHELIAL TUMORS OF THE UTERUS—*continued*

Epithelioma of Cervix—Operable

Number	*Age*	*Chief Complaint*	*Dur. of Symptoms*	*Type of Operation*	*Type*	*Metast. at Op.*	*Result*
16592	39	Bloody discharge	9 weeks	Com. Hysterectomy	Squam.	O	Died 7 months P.O
17712	34	Watery discharge	2½ months	(1) Com. Hysterectomy (2) Excision of specimen from cervix	Squam.	O	Discharge continued; second operation 3 months later, ½ year after second operation numerous recurrences
18438	67	White discharge	2 days	Com. Hysterectomy	Squam.	O	Died 1½ years P.O.
19897	53	No history	-	Com. Hysterectomy	Squam.	O	Died 2 days P.O. (shock)

Epithelioma of Cervix—Inoperable

Number	*Age*	*Chief Complaint*	*Dur. of Symptoms*	*Type of Operation*	*Type*	*Metast. at Op.*	*Result*
16640	47	Bloody discharge Pain in abdomen	2 months	Removal of specimen Cauterization of cervix	Squam.	?	2 months P.O. confined to bed
17538	51	Bloody discharge Pain in abdomen	8 months	Exploratory Celiotomy Excision of specimen	Squam.	O	
17519	59	Bloody discharge	3 weeks	Exploratory Celiotomy; Percy cauterization of uterus; Curettage	Squam.	O	
18040	61	Bloody discharge	6 months	Cauterization of uterus	Squam.	.	Died ½ year P.O.
18205	35	Bleeding	3 weeks	Salpingo-Oophorectomy; Percy cauterization	Squam.	O	Recurrence 4 months P.O.; died 1½ years P.O.
18221	39	Pain in abdomen	2 months	Com. Salpingectomy Percy cauterization of uterus	Squam	O	Died 8 months P.O.
18293	51	Bloody discharge	2 months	Curettage	Squam.	?	Died soon after leaving P. H.
18631	45	Bloody discharge	6 weeks	(1) Exploratory Celiotomy Percy cauterization of uterus (2) Cauterization of uterus	Squam.	+	Return of symptoms ½ year P.O. 19 months P.O. unimproved (radium treatment)
18986	49	Pain in back and abdomen; slight bloody discharge	4 weeks	Partial Hysterectomy	Squam.	O	Died 2 months P.O.

MALIGNANT EPITHELIAL TUMORS OF THE UTERUS—*continued*

Epithelioma of Cervix—Inoperable—*continued*

Number	*Age*	*Chief Complaint*	*Dur. of Symptoms*	*Type of Operation*	*Type*	*Metast. at Op.*	*Result*
19112	37	Bloody discharge (5 years ago supra-vag. hysterectomy for fibroids of uterus)	4 months	Cauterization of cerv.	alveolar	.	2 months P.O. unimproved
19799	50	Bloody discharge	2 years	Curettage and radium insertion	Squam.	.	3½ months P.O. unimproved (radium treatment)
19809	51	Metrorrhagia; later, white discharge	1 year	Exploratory Celiotomy Radium application	Squam.	.	4 months P.O. bad prognosis (radium treatment)

MALIGNANT EPITHELIAL TUMORS OF THE UTERUS

Carcinoma of uterus—Operable	8	Oldest	67
Inoperable	3	Youngest	34
		Average	51.57 years
	11		
Epithelioma of cervix—Operable	4		
Inoperable	12		
	16		
Total	27		
Carcinoma of uterus:			
Radical operation alone	4		
No recurrence 1 year P.O.	2		
No recurrence 2 years P.O.	1		
Died of operation	1		
Carcinoma of uterus Radical operation + radium and cauterization	4	Died	40 per cent
No recurrence 3 months P.O.	1		
Alive with metastases 1 year	1	Alive with recurrence	20 per cent
Alive with metastases 4½ years	1		
Unknown		Alive without recurrence	40 per cent
Carcinoma of uterus:			
Curettage alone	3		
Died 4–6 months	2		
Died 1 year P.O	1		
Epithelioma of cervix:			
Radical operation alone	4		
Alive with recurrence 9 months P.O.	1		
Died of operation	1	Died	57.1 per cent
Died 7 months P.O	1		
Died 1½ ears P.O.	1	Alive with recurrence	42.9 per cent
Epithelioma of cervix:			
Incomplete operation alone	3		
Died	2		
Unknown	1		
Incomplete or no operation + — radium or cauterization	9		
Alive with recurrence 1–6 months P.O.	4		
Alive with recurrence 19 months P.O.	1		
Died ½ year P.O.	2		
Died ½ years P.O.	1		
Unknown	1		

Combined Results (24 Cases With Known Results)

Alive without metastases or recurrence	4	16⅓ per cent
Alive with metastases or recurrence	8	33⅔ per cent
Died	12	50 per cent

CARCINOMA OF MAMMARY GLAND.—AUGUST 1, 1914–AUGUST 1, 1917

Number	*Age*	*Metast. at Op.*	*Result*
16253	40	+	
16261	53 (male)	+	Died pneumonia, 6 days P.O.
16434	30	+	2 years P.O. no recurrence
16595	38	+	
16786	31	O	1½ years P.O. no recurrence
16871	49	+	½ year P.O. no recurrence
16926	43	+	Died; recurrence 1¼ years P.O.
16899	40	+	Died 2 years P.O.
16839	53	+	Recurrence ½ year P.O.
16817	37	+	Died; recurrence 1 year P.O.
16843	45	+	Sent to Incurables' Home 2 months P.O.
16482	45	+	Died; recurrence 3 months P.O.
16430	48	+	
16450	41	O	
17028	41	+	1¼ years P.O. no recurrence
16147	47	+	Recurrence, 3 years later
16302	63	+	Pleural involvement, 2½ years P.O.
17209	58	O	
16204	50	O	2 years P.O. no recurrence
17855	43	+	
17991	35	+	Recurrence, 1 year P.O.
18059	59	+	
18143	42	+	Recurrence 1 year P.O.
18104	46	+	No recurrence 2 years P.O.
18160	58	O	1 year P.O. no recurrence
18183	45	O	1¾ years P.O. no recurrence
18348	49	O	No recurrence 1 year P.O.
19290	51	+	Metastases in spine, 6 months P.O.
19282	62	O	No recurrence 1 year P.O.
19327	54	O	No recurrence 11 months P.O.
19395	34	+	Died ½ year P.O.
19526	60	+	½ year P.O. no recurrence
19627	45	+	Recurrence ½ year P.O.
16772	43	+	No recurrence 2½ years P.O.
16526 (1)	32	+	2 years P.O. operation for carcinoma of other breast
19144 (2)	—	O	
16571	38	+	Died
16798	47	+	1 year P.O. no recurrence
16834	66	+	General metastases 2¼ years later
17075	44	+	
17295	55	+	Recurrence 2 years P.O.
17352	39	O	Recurrence 2 years P.O.
17385	48	+	Died 6 months P.O.

CARCINOMA OF MAMMARY GLAND—Continued

Number	*Age*	*Metast. at Op.*	*Result*
17546	59	O	No recurrence 2 years P.O.
17586	44	O	Recurrence 2 years P.O.
17783	66	+	
17866	57	+	
17220	47	+	No recurrence 2 years P.O
17393	51	+	
17592	44	+	No recurrence 1 year P.O.
17979	32	O	(Three years ago, operation for carcinoma of opposite breast); died 1¾ years P.O.
18195	56	O	Died 6 weeks P.O.
18233	56	+	Metastases 1 year P.O.
18255	43	+	No recurrence 1 year P.O.
18300	41		
18382	47	+	14 months P.O. 2nd operation for carcinoma of other breast
19394	—	+	
17645	48	O	2 years P.O. operated for carcinoma of uterus
18514	58	+	Recurrence, 6 months P.O.
18784	43	+	Recurrence 1 year P.O.
18875	45	+	Died, recurrence 1 year P.O.
19963	46	O	
18949	47	+	Recurrence and other breast involved 1 year P.O.
19135	42	O	Died 8 months P.O.
18377	40	O	
18473	49	O	No recurrence 1 year P.O.
18487	50	+	(X-ray therapy); no recurrence 18 months P.O.
18541	64 (male)	+	17 months P.O. metastases in lungs
18628	44	O	
18671	42	O	No recurrence 1 year P.O.
18680	33	O	No recurrence 17 months P.O.
18719	35	+	Recurrence 1 year P.O.
18871	72	+	Died 5 days P.O. (probably purely cardiac)
18945	49	+	1 year P.O. no recurrence
18941	67	O	1 year P.O. very ill
18961	36	O	Recurrence 1 year P.O.
19002	45	O	No recurrence 1 year P.O.
19031	56	+	
19428	66 (male)	+	Died, pneumonia, 7 weeks P.O.
19940	45	O	Very ill 6 months P.O.
19321	52	O	No recurrence 11 months P.O.
19357	55	+	Recurrence 4 months P.O.
19578	43	+	No recurrence 6 months P.O.
19598	28	+	Metastases 8 months P.O.
19622	48	O	Recurrence 6 months P.O.

CARCINOMA OF MAMMARY GLAND—Continued

Number	*Age*	*Metast. at Op.*	*Result*
19736	44	O	No recurrence 6 months P.O.
19763	50	+	No recurrence 7 months P.O.
19794	56	+	No recurrence 7 months P.O.
20018	43	+	No recurrence 4 months P.O.
19409	48	+	
19534	36	+	Metastases 2 months P.O.

Male	3
Female	87
Average age	46.8
Oldest	66
Youngest	28

Alive without recurrence or metastasis:		
0–1 year	19	
1–2 years	11	
2–3 years	1	
	31	43.1 per cent
Alive with metastases or recurrence:		
0–1 year	18	
1–2 years	6	
2–3 years	3	
	27	37.5 per cent
Died:		
0–1 year	11	
1–2 years	3	
2–3 years	0	
	14	19.4 per cent
Unknown	25	
Metastasis at operation:		
Alive without recurrence or metastases	16	33.3 per cent
Alive with recurrence or metastases	21	43.8 per cent
Died	11	22.9 per cent
Unknown	12	
	60	
No metastasis at operation:		
Alive without recurrence or metastases	15	62.5 per cent
Alive with recurrence or metastases	6	25 per cent
Died	3	12.5 per cent
Unknown	6	
	30	

CARCINOMA OF PROSTATE. SEPTEMBER, 1914 SEPTEMBER, 1917

16127	61	Hypertrophy	1	Died 5 days P.O. (Entire prostate removed; suprapubic incision)
18480	59	Hypertrophy	2	Died 5 weeks P.O. (Left lobe removed; suprapubic incision). (Four years before, partial prostatectomy)
18596	58	Carcinoma	3	Metastases in inguinal glands; died 5 months P.O.
18630	59	Carcinoma	4	14 months P.O. alive with recurrence. (Practically whole prostate removed; perineal incision)

Alive without metastases or recurrence	0	
Alive with metastases or recurrence	1	25 per cent
Died	3	75 per cent
	4	

Average age	59.25 years
Oldest	61
Youngest	58

CARCINOMA OF TESTICLE.—AUGUST, 1914–AUGUST, 1917

Number	*Age*	*Dur. of Sympt.*	*Operation*	*Metast. at Op.*	*Result*
17371	45	3 months	(1) Partial Orchidectomy; inversion of hydrocele sac 4 days later	0	
			(2) Orchidectomy with removal of testicle, part of scrotum and part of spermatic cord		Died 8 months P.O.
17448	35	18 months	(1) Excision, Orchidectomy	0	Recurrence 5 months P.O.
			(2) Removal of tumor of inguinal region		Died 2 months after second operation (apparently thoracic involvement)
17567	46	1 year	Orchidectomy	0	No recurrence 1½ years P.O.
17703	49	4 years	Orchidectomy	0	Died 2 days P.O.
19428	26	2 months	Orchidectomy	0	1 year P.O. appears well

Alive without recurrence or metastases 1½ yrs.	1	40 per cent
Alive without recurrence or metastases 1 yrs.	1	
Alive with recurrence or metastases	0	
Died at once	1	60 per cent
Died 7–8 months	2	
Unknown	1	
	5	

Average Age 40.2 years.

Oldest	49
Youngest	26

EPITHELIOMA OF SKIN

Number	*Sex*	*Age*	*Dur. of Sympt.*	*Type of Operation*	*Metastases at Op.*	*Site*	*Result*
16800	M	52	—	—	0	Cervical region	
17397	M	68	6 months	(1) Excision of mass	+	Lat. neck reg.	Recurred 2 months P.O.
				(2) Excision of mass		Lat. neck reg.	Recurrence and X-ray treatment 2 months P.O. died 14 months after second operation
17880	M	42	4 weeks	Excision of specimen	0	Lat. neck reg.	Treated at G. M. H. with ?; died 8 months P.O.
18212	F	74	1 year	Local excision	0	Dorsal forearm	4 months P.O. no recurrence
18216	F	35	$2\frac{1}{2}$ years	Amputation of little finger and metacarpal	0	Volar region of hand	No recurrence 20 months P.O.
18563	M	43	5 months	Partial excision of ear and glands of neck	0	Ear	14 months P.O. perfect result
18990	F	60		—	0	Face	
19215	F	59	4 months	Excision of ulcer	0	Vulva	1 year P.O. no recurrence
19427	M	72	14 months	Curettage	0	Ear	Improved 10 months P.O. (radio therapy)
19849	M	63	3 years	Curettage followed by excision and skin grafting	0	Parotideo-masseteric region	4 months P.O. well
19910	M	66	20 months	Excision of specimen	0	Lat. neck reg.	

LOCATION

Neck	4
Face	2
Ear	2
Hand	1
Forearm	1
Vulva	1

Cases		11
Male		7
Female		4
Average age		57.6 years
Male		7
Female		4
Youngest	35	
Oldest	74	

LOCATION

Alive without metastases or recurrence 4 months P.O.	2	62.5 per cent
Alive without metastases or recurrence 12-20 months P.O.	3	
Alive with metastases or recurrence 10 months P.O.	1	12.5 per cent
Died 8 months P.O.	1	25 per cent
Died 16 months P.O.	1	
Unknown	3	
	11	

BASAL CELLED EPITHELIOMA OF SKIN

(Basal celled epitheliomata of mucous membranes are recorded as carcinomata or epitheliomata of the region involved: e. g. rectum, mucous membrane of mouth, etc.)

Number	*Sex*	*Age*	*Situation*	*Duration of Symptoms*	*Operation*	*Result*
17206	M	71	Face	7 years	Excision of tumor	2½ years P.O. appears well
17410	M	—	Face	—	Excision of tumor	No recurrence 2¼ years P.O.
17431	M	55	Face	5 years	Excision of tumor	
18585	F	63	—	—	—	
19008	F	56	Face	7 years	Curettage; Acid nitrate of mercury; Radiotherapy	No recurrence 1 year P.O.
19604	M	48	Face	—	—	8 months P.O. no recurrence
19702	M	64	Foot	17 years	Excision of tumor	1½ mos. P.O. no recurrence
19918	F	85	Face	—	—	3 months P.O. no recurrence

Male	5
Female	3
Average age	63.1 years
Oldest	85
Youngest	48

Alive without recurrence 1 3½ months	2
Alive without recurrence 8 months	2
Alive without recurrence 2¼ 2½ years	2
Unknown	2
Recurrence	0
Died	0
	8

CARCINOMA OF BLADDER.—AUGUST 1, 1914–AUGUST 1, 1917

Number	*Sex*	*Age*	*Metast. at Op.*	*Result*
16537	M	63	O	Recurred 2 years P.O.
17367	M	35	O	Died 1 year P.O.
19092	F	70	O	Died 3 weeks P.O.
17756	M	76	+	No radical operation; 6 months later is no worse

Alive without recurrence or metastases	0	
Alive with recurrence or metastases 6 months–1 year P.O	1	50 per cent
Alive with recurrence or metastases 2 years P.O.	1	
Died at once	1	50 per cent
Died 1 year	1	
	4	

Average age	61.4 years
Oldest	76
Youngest	35
Male	3
Female	1

MISCELLANEOUS CONDITIONS

Hypernephroma of Kidney Female

16481 C.C. Vomiting and pain in left side of abdomen. Duration 2 days. Operation: Exploratory Celiotomy.

Carcinoma of Kidney Male 68 years

19539 C.C. Intermittent hematuria. Duration 2 years. Operation: Nephrectomy. Well, 8 months P.O.

Carcinoma of Hypophysis Male 47 years

16446 C.C. Trouble with ear; headaches and nasal discharge. Duration 1½ years Partial excision of carcinoma of brain. (Several operations for polyps.)

Papillary Cysto Adenoma of Thyroid Male 17 years

18440 C.C Difficulty in breathing for several weeks. (Two years ago, Partial Thyroiectomy at R.H.) Operation: Partial thyroidectomy, left. Tracheotomy. 3 months P.O. infection of second operation wound. This was incised and drained. Third operation, 9 months after second operation. Partial thyroidectomy right. Cured.

Epitheliom of Esophagus Male 38 years

18068 C.C. Difficulty in swallowing. Duration, 3 months. Operation: Gastrotomy (inoperable) Died 3 weeks P.O.)

Male 42 years

16929 C.C. Duration, 3 months. Operation: Partial excision. Died 7 weeks P.O.

17871 **Ganglioneuroma** Male 2 years

Duration 7 months. Operation: Thoracentesis. Died 7 months P.O.

METASTASIS FROM CARCINOMATA AND EPITHELIOMATA OF UNKNOWN ORIGIN

AUGUST 1, 1914–AUGUST 1, 1917

Number	*Sex*	*Age*	*Duration of Symptoms*	*Possible Site of Origin*	*Tissue Excised From*	*Result*
16373	F	23	5 weeks	Upper abdominal?	Liver	Died 2 hours P.O.
18976	M	67	3 weeks	Liver or upper abdomen	Liver	Died 11 days P.O.
17100	F	45	3 months	Upper abdomen?	Omentum	Died 3 weeks P.O.
19055	F	30	3 weeks	Upper abdomen (pylorus)	Liver	Died 17 days P.O.
16603	F	40	9 weeks	Pelvic region?	Omentum	Died 6 months P.O.
17994	F	61	3 months	Pelvic region	Parietal peritoneum	
16717	F	56	9 months	Unknown	Mesentery	Unimproved 1½ months P.O.
18749	F	42	—	Unknown	Peritoneum	Died about 9 months P.O.
17976	F	40	6 weeks	Unknown	Peritoneum	Died 9 months P.O.
19095	F	56	3 weeks	Unknown	Liver	Died of operation
18012	M	65	—	Unknown	Lymph gland	
17916	M	40	6 months	Unknown	Cervical lymph gland	
19224	M	60	3 months	Unknown	Cervical lymph gland	4 months P.O. X-ray treat.
18843	F	52	3 days	Unknown	Vertebrae	Died about 6 months P.O.

MIXED TUMORS.—AUGUST, 1914–AUGUST, 1917

Number	*Sex*	*Age*	*Site*	*Duration*	*Result*
16340	F	50	Parotid	20 years	Increased in size for last two years
16510	M	38	Back	9 months	
16615	M	69	Parotid	6 years	No recurrence 26 months P.O.
16527	M	33	Parotid	1½ years	Recurred immediately; still present 2½ years P.O.; refused treatment
16914	F	28	Upper lip	4½ months	
17232	F	71	Parotid	4 years	Only person knowing patient's address is Dr. Oshlag, who is treating patient and refuses to give her address. Says she is too old to come to F.U.
17405	M	17	Parotid	1 year	Recurred after 1 year. Second excision 26½ months after first operation
18078	M	40	Parotid	5 years	No recurrence 14 months P.O.
17274	M	31	Parotid	3 years	
19098	F	63	Parotid	10 years	1 month P.O. no recurrence
19883	F	23	Parotid	8 years	First removal 7½ years ago (S. & C. Hospital). Recurred after 2½ years. Second removal (P. H. 1914), (paralysis of facial nerve). Recurred after 2 years. Third removal (P. H. 1917). No recurrence 2 months after last operation.
19959	F	29	Retroper	2 weeks	Excision of tumor and appendicectomy. No recurrence 3 months P.O.
17172	F	21	Parotid	8½ years	First operation 8½ years ago; second operation 8 years ago; third operation 2½ years ago (Blake); fourth operation 6 months ago (Brewer); 5th operation (Lambert).
17369	M	24	Testicle	6 weeks	Left Orchidectomy. No recurrence 1½ yrs. P.O.

Total 14.

Results of 7 known cases that have been followed 1 year or more:

Recurred	4	50 per cent
No recurrence	4	50 per cent

MALIGNANT CONNECTIVE TISSUE TUMORS.—JULY 1, 1914 JULY 1 1917

Number	Diagnosis	Sex	Age	Duration of Symptoms	Type of Operation	Mitoses	Capsule	Circum.	Infiltration	Recurrence	Metastases	Result
17876	Fibrosarcoma, ant. fem. region	M	48	5 years	Excision of tumor	O	O	O	+	O	O	2 years P.O. reported that patient is working and well
19232	Fibrosarcoma, abdominal wall	F	38	2 years	Excision of tumor	O	O	+	O	O	O	9 months P.O. no recurrence
18207	Fibrosarcoma, abdominal wall	M	33	$1\frac{1}{2}$ years	(1) Excision	?	?	?	?	+	O	Appeared in abdominal wound scar; recurrence $1\frac{1}{2}$ years P.O.
					(2) Excision	?	?	?	?	+	O	2nd operation $4\frac{1}{2}$ years after 1st operation; recurrence $2\frac{1}{2}$ years P.O.
					(3) Excision	?	?	?	?	+	O	3rd op. 3 years after 2nd op.
					(4) Excision	O	O	O	+	+	O	4th op. 1 year after 3rd op.
					(5) Excision	O	O	+	O	+	O	5th op. 2 years after 4th op.
					(6) Excision	O	O	O	+	+	O	6th op. $1\frac{1}{2}$ years after 5th op.
					(7) Excision	O	O	O	+	+	O	7th op. $1\frac{1}{2}$ years after 6th op. 1 month P.O. recurrence
17662	Endothelioma, spinal meninges	F	62	—	Excision of tumor	O	O	O	+			$1\frac{1}{4}$ years P.O. much improved
18251	Endothelioma, spinal meninges	F	43	2 years	Partial excision of tumor	O	O	O	+	O	O	Died 3 days P.O. pneumonia
19759	Endothelioma, spinal cord	M	21	1 year	(1) Partial excision of tumor	oc	O	O	+	+	O	Recurred after 5 years; 2nd operation $7\frac{1}{2}$ years after first operation
					(2) Partial excision	oc	O	O	+	O	O	4 months after 2nd op. no recurrence
18402	Glioma, cerebellum	M	16	?	Excision of tumor	O	O	+	O	?	?	20 months P.O. is very ill
17213	Giant celled sarcoma of finger	F	11	1 year	Excision of tumor	O	O	+	O	O	O	$1\frac{3}{4}$ years P.O. no recurrence

MALIGNANT CONNECTIVE TISSUE TUMORS Continued

Number	Diagnosis	Sex	Age	Duration of Symptoms	Type of Operation	Mitoses	Capsule	Circumference	Infiltration	Recurrence	Metastases	Result
17596	Giant celled sarcoma of finger	F	34	5 years	Excision of tumor	?	?	?	?	0	0	$3\frac{1}{2}$ months P.O. no recurrence
18133	Giant celled sarcoma of finger	M	22	2 years	(1) Excision of tumor	0	0	+	0	+	0	Recurred after $1\frac{1}{2}$ years; 2nd operation 3 years after 1st operation
					(2) Excision of tumor	0	0	+	0	0	0	$1\frac{3}{4}$ years after 2nd op. no recurrence
17502	Giant celled sarcoma of gum	F	7	?	Excision of tumor	0	0	+	0	?	?	
17955	Giant celled sarcoma of gum	F	49	Several weeks	Excision of tumor	0	0	0	+	?	?	
17795	Giant celled sarcoma, lat. fem reg.	F	46	1 year	Excision of tumor	oc	0	+	0	0	0	1 year and 10 months P.O. no recurrence
19529	Spindle celled sarcoma of scapula	F	57	7 months	(1) Excision of tumor and part of scapula	oc	0	0	+	+	0	Recurred at once; 2nd operation 5 months after 1st operation
					(2) Excision of tumor	oc	0	0	+	0	0	4 months after 2nd op. recurred
					(3) Excision of tumor (Bellevue Hospital)							
16191	Spindle celled sarcome of trachea	M	11	6 months	(1) Excision of tumor	oc	0	+	0	+	0	Recurrence; 2nd operation 9 months after 1st operation
					(2) Excision of tumor	fr	0	0	+	0	0	No recurrence $2\frac{1}{2}$ years after 2nd operation (X-ray, radium and Coley tox.)
17718	Spindle celled sarcoma of f.m.g.	F	63	$3\frac{1}{2}$ years	Com. Mastectomy	fr	0	0	+	0	0	13 months P.O. no recurrence

MALIGNANT CONNECTIVE TISSUE TUMORS Continued

Number	*Diagnosis*	*Sex*	*Age*	*Duration of Symptoms*	*Type of Operation*	*Mitoses*	*Capsule*	*Circumference*	*Infiltration*	*Recurrence*	*Metastases*	*Result*
17383	Spindle celled sarcoma of pop. reg.	F	37	5 years	Amputation through mid thigh	fr	O	+	O	O	?	Died 17 days P.O. pulmonary embolus (metastatic?)
18418	Spindle celled sarcoma of pop. reg.	M	21	9 months	Amputation through mid thigh	fr	O	O	+	O	+	Died 1 year P.O.
19160	Spindle celled sarcoma of mam. reg.	M	55	2 years	Partial excision	oc	O	O	+	O	O	12 months P.O. reports that he is well
17437	Spindle celled sarcoma, lat. crural reg.	F	43	?	Excision of tumor	rare	O	+	O	O	O	3 mos. P.O. no recurrence (lost case)
18718	Spindle celled sarcoma of trochant. reg.	M	24	8 months	Excision of tumor	many	O	O	+	+	?	Recurred after 2 months
18127	Spindle celled sarcoma of ilium	M	21	6 months	Excision of spec.	oc	O	O	+	+	+	X-Ray and radium treatment; 7 months P.O. metastases in lungs
19943	Spindle celled sarcoma of uterus	F	46	$3\frac{1}{2}$ mos.	Curettage, ex. cel., insertion of radium (metast. in pelvic gl.)	oc	O	O	+	+	+	3 months P.O. unimproved; radium inserted
19351	Spindle celled sarcoma of lat. crur. reg.	M	56	?	(1) Excision of tumor	oc	O	O	+	+	O	Recurred
					(2) Excision of tumor	oc	O	O	+	+	O	2nd op. 17 months after 1st. op.
					(3) Excision of tumor	oc	O	O	+	+	O	3rd op. 1 year after 2nd op.
					(4) Excision of tumor	oc	O	O	+	+	O	4th op. 3 months after 3rd op.
					(5) Excision of tumor	oc	O	O	+	O	O	5th op. 11 months after 4th op. 10 months P.O. recurred
16345	Spindle celled sarcoma of uterus	F	57	5 months	Com. Hysterectomy	many	O	O	+	?	+	Died 2 months P.O. (epigastric mass)

MALIGNANT CONNECTIVE TISSUE TUMORS—Continued

Number	*Diagnosis*	*Sex*	*Age*	*Duration of Symptoms*	*Type of Operation*	*Mitoses*	*Capsule*	*Circumference*	*Infiltration*	*Recurrence*	*Metastases*	*Result*
16901	Spindle celled sarcoma of uterus	F	46	1 month	Hysterectomy	many	O	O	+	+	?	Recurred at once; died 2 mos. P.O.
16154	Round celled sarcoma of maxilla	F	4	5 weeks	Excision of tumor	fr	O	+	O	?	?	
16255	Round celled sarcoma of small intestine	F	19	1 year	Partial Enterectomy	rare	+	O	O	O	O	$2\frac{1}{4}$ years P.O. no recurrence
16602	Round celled sarcoma? calcan, reg.	M	21	?	(1) Excision of spec. and femoral l. g.	oc	O	O	+	O	+	4 months after 1st operation, leg amputated at Bellevue Hospital
					(2) Amputation of leg	?	?	?	?	O	O	4 months after second operation is perfectly well and working
17865	Round celled sarcoma of temporal muscle	F	12	Several months	Excision of tumor	oc	O	+	O	?	?	No recurrence 2 years P.O.
17797	Round celled sarcoma of pleura	F	19	4 weeks	Excision of specimen	many	O	O	+	+	?	Died 3 weeks P.O.
17835	Round celled sarcoma of maxilla	M	17	3 months	Excision of specimen	many	O	O	+	+	+	Treated with X-Ray and Coley's toxins; died 4 months P.O. general metastases
18328	Osteo-sarcoma of tibia	F	37	6 months	Amputation through mid thigh	oc	O	O	+	O	O	3 months P.O. no recurrence
18324	Osteo-sarcoma of femur	M	18	6 weeks	Amputation through mid thigh	many	O	O	+	O	+	Died $7\frac{1}{2}$ months P.O. (probably metastases in lung)
18811	Osteo-sarcoma, occipital bone	M	24	2 months	Excision of specimen	oc	O	+	+	+	?	Died shortly after leaving hospital

17359	Osteo sarcoma of f. m. g.	F	60	3 month	Radical Mastectomy	?	O	O	+	O	O	1¼ years P.O. no recurrence
19568	Osteo-sarcoma of mandible	F	16	1 year	Partial Ostectomy of mandible	rare	O	+	O	+	?	Recurred after 3½ months (at G. M. H.)
17322	Giant celled sarcoma of mandible	M	33	1 year	Excision of tumor	O	O	O	+	O	O	9 months P.O. no recurrence (has pulmonary tuberculosis)
18173	Osteosarcoma of lumbar region	M	24	3 months	Excision of specimen	O	O	O	+	?	?	
					MELANOMAS							
16294	Melanoma, lat neck region	F	82	—	Excision of specimen	oc	O	O	+			
17331	Melanoma of leg	M	29	3 months	(1) Excision of tumor	O	O	O	+	O	+	Had inguinal gland involved at time
					(2) Thoracentesis	many	O	O	+	+	+	Metastases in lung· died 2 months after 1st operation
16797	Melanoma, abdominal wall	F	30	7 months	Excision of tumor and lymph glands	many	O	O	+	+	+	5 months P.O. had general metastases; 11 months P.O. died
18929	Melanoma of great toe	M	57	1½ years	(1) Amputation through metatarsus and inguinal lymphadenectomy	many	O	O	+	+	+	5 months later recurrence in inguinal region
					(2) Excision	Many	O	O	+	+	+	2nd operation 9 months after 1st operation; 3 months later recurred locally and in stomach; died 14 months after 1st operation.

DISTRIBUTION OF TUMORS ACCORDING TO TYPE

Fibrosarcoma—3

Died	0
Recurred	1
No recurrence	2

Endothelioma—3

Died (of operation)	1
Recurred	1
No recurrence	1

Glioma—1

Recurred (?)	1

Giant-Celled Sarcoma—7

Died	0
Recurred	1
No recurrence	4
Unknown	2

Spindle-Celled Sarcoma—13

Died	4
Recurred (metastases 4)	6
No recurrence	1
Unknown	2

Round-Celled Sarcoma—6

Died (metastases 1)	2
Recurred (metastases)	1
No recurrence	2
Unknown	1

Osteosarcoma—6

Died (metastases 1)	2
Recurred	1
No recurrence	1
Unknown	2

Melanoma—4

Died (metastases 3)	3
Recurred (metastases.)	1

Male	19
Female	24
	--
Total (including melanomas)	34

ANATOMICAL DISTRIBUTION

Subcutaneous tissues	19
Bone	9
Uterus	3
Spinal meninges	2
Mucous membrane of mouth (gum)	2
Female mammary gland	2
Spinal cord	1
Cerebellum	1
Trachea	1
Small intestine	1
Muscle	1
Pleura	1
	-
	43

COMBINED STATISTICS OF ALL SARCOMAS AND MELANOMAS

Alive without recurrence or metastases	11	30.6 per cent
Alive with recurrence or metastases	13	36.1 per cent
Died	12	33.3 per cent
Unknown	7	

Male	19
Female	24
Average age	33.7 years
Oldest	82 years
Youngest	4 years

A GANGLIONEUROMA OF THE RETROPLEURAL REGION.

BY A. P. STOUT, M. D.

Tumors arising from differentiated cells derived from the neural ectoderm have been recognized as a definite type of neoplasm for many years. They are not common for in 1914 Wahl[1] was only able to collect about fifty cases.

The example which it is the purpose of this communication to report, does not shed any new light upon the histogenesis of these neoplasms. The only excuse for publishing it is to emphasize and to call attention to the fact that such tumors do occur, for the vast majority of the cases on record have been reported by continental observers and to some surgeons and physicians they are merely a name.

Falk[2] in 1907, Wegelin[3] in 1910, and Wahl[1] in 1914 had made such exhaustive analyses of these cases that it will be unnecessary at the present time to do more than summarize their results. They find that the tumors are usually encapsulated, that they metastasize in only about ten per cent of the cases observed and that they may occur at any age. Falk states that as a general rule the younger the individual the larger the tumor. The vast majority of these tumors contain ganglion cells of sympathetic origin, medullated and non-medullated nerve fibrils, connective tissue, and rarely a proliferation of the cells of the sheath of Schwann.

As sympathetic nerve cells are found in a wide variety of situations throughout the body, one is not surprised to find these tumors occurring in widely scattered areas. They have been described as coming from the coeliac ganglion, the ganglion of the cervix uteri, the medulla of the adrenal, the adrenal plexus, the lower pole of the kidney, the angle of the jaw, the chin, the carotid artery, the cranial lumbar and sympathetic nerves, the knee joint, the temporal and parietal lobes of the brain, the sympathetic cells about the small arteries in the subcutaneous tissue, the sub-pleural tissues and the tissues in front of and to the right of the sixth to eighth vertebrae.

As to whether any tumors come from the cerebro-spinal system there is considerable doubt. Wegelin quotes the following five cases as coming possibly from the cerebro-spinal system: (1) Czerny[4], a plexiform neuroma of the lumbar plexus in which a nodule lying outside the dura contained ganglion cells. Wegelin believes that this may be merely a neurofibroma containing heterotopic ganglion cells. (2) Axel Key[5], a ganglioneuroma of the left nasal cavity which was apparently connected with the infraorbital plexus. (3) Haenel[6], a tumor from the inner surface of the dura of the brain which contained ganglion cells and medullated nerve fibers. Wegelin thinks this also may come from the sympathetic. (4) Benda[7], a ganglioneuroma coming from the vagus ganglion. (5) Verocay[8], multiple tumors of the nervous system with ganglion cells in one of the nodes on a lumbar nerve and overgrowth of the cells of the sheath of Schwann.

Marchand's[9] case of the tumor of the Gasserian ganglion is believed to be composed of undifferentiated neurocytes of the cerebrospinal system which places it in a class by itself because up to the present time it is unique. He called it a neurocytoma.

The history of our case is given in full at the end of the present report. It may be briefly summarized as follows: A male child, two years and six months of age, came to the Hospital with a seven months' history of stomach trouble and a four months' history of weakness of the lower extremities. The weakness had been becoming progressively worse and shortly before admission he had lost control of the bladder and anal sphincters. The child had never been ill before the present trouble began. Physical examination showed

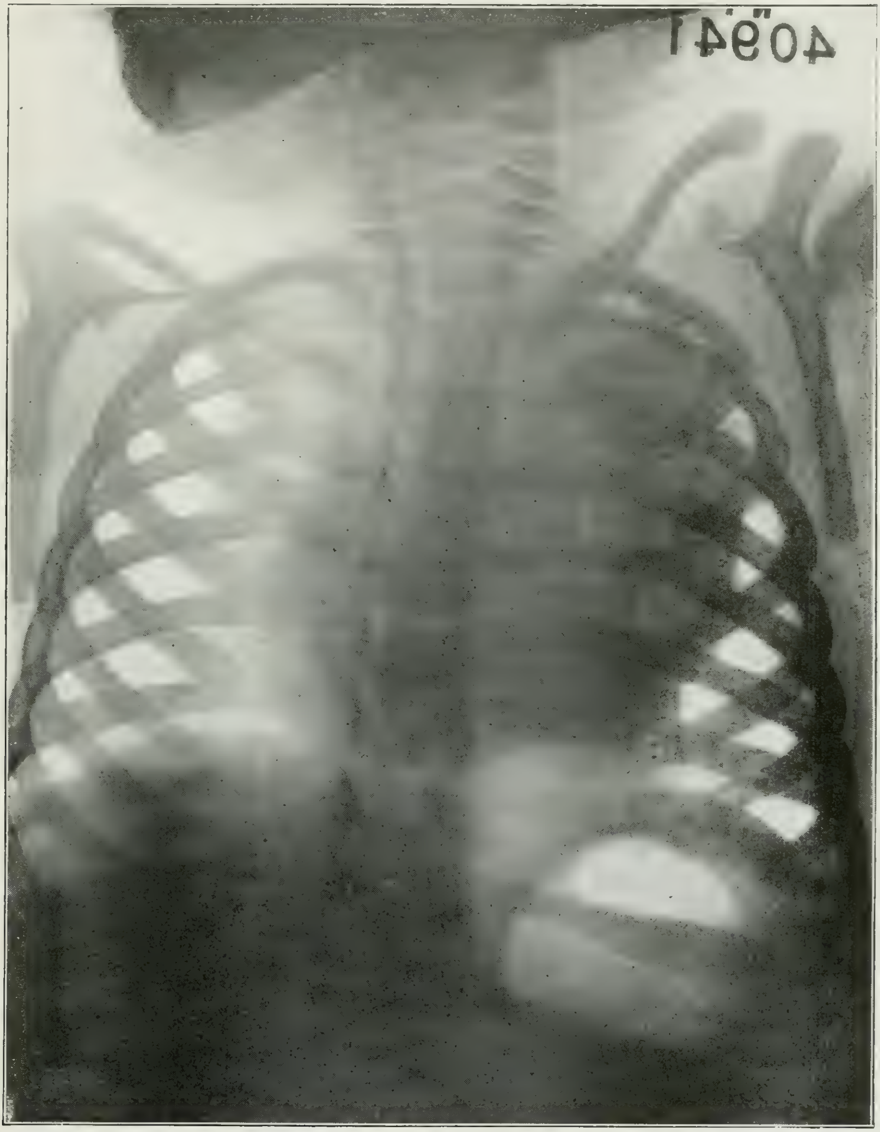
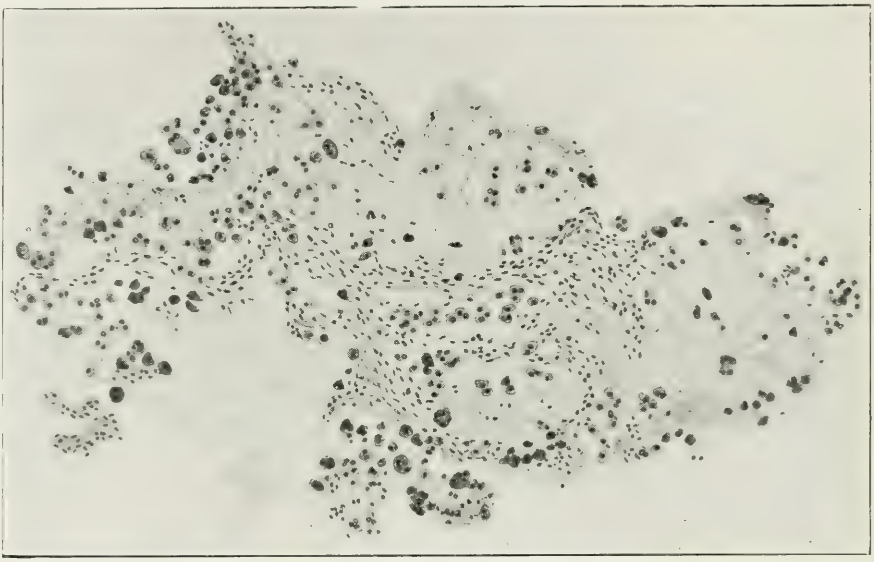


FIGURE I

Photographic impression made from X-ray negative of chest showing sharply outlined shadow in upper left thorax. The heart shadow is apparently not displaced.

signs of interference with the function of the cord in the thoracic region and X-ray (see Fig. I) revealed a large mass occupying the upper part of the left thoracic cavity. A needle was put into the thorax through the third left interspace anteriorly. No fluid was found but a small fragment of tissue remained in the lumen of the needle when it was withdrawn. Sections of this revealed the microscopic sections shown in Figures II and III. At that time the diagnosis of sarcoma was made.



No. 4076. Surgical Pathology, Columbia University.

FIGURE II

Photograph of drawing made from microscopic slide of tissue found in lumen of needle after exploratory thoracentesis. The larger cells many of which are multinucleated are ganglion cells. There is a small amount of fibrous tissue but most of the fine fibrils about the ganglion cells are probably nerve fibrils.

The child was regarded as inoperable and left the Hospital. Four months later, probably because the symptoms were but little altered and the tumor had not progressed to any great extent, it was decided to make an attempt to relieve the pressure on the cord. The child accordingly entered the Neurological Institute where at operation a long cylindrical mass was found in the spinal canal extending from the lower cervical region through the upper dorsal. It was extradural and a prolongation of it extended foreward through an intervetebral foramen. The child did not survive this operative procedure.

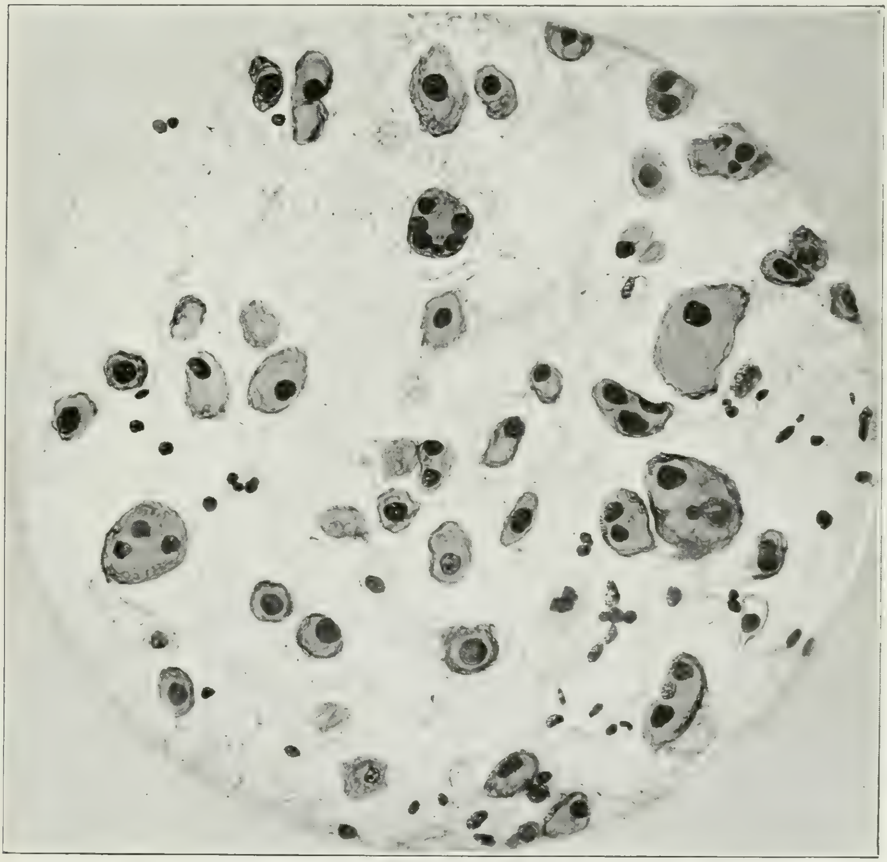


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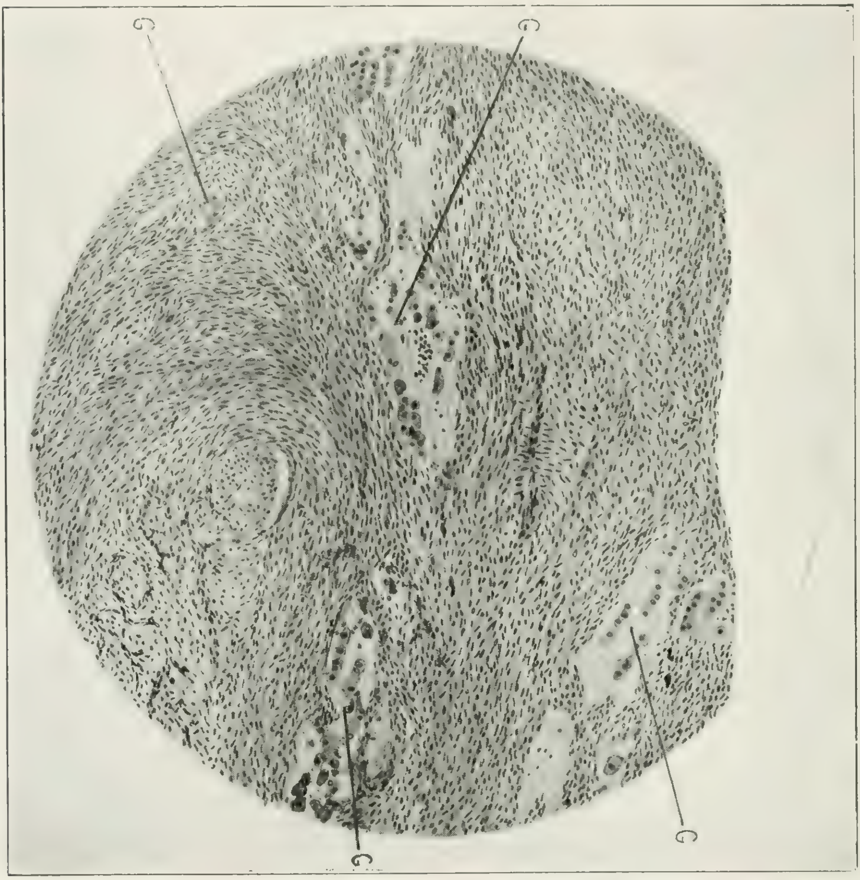
FIGURE III

Photograph of drawing made from high power magnification of microscopic slide of some ganglion cells in the piece of tissue shown in Figure II. The tangled network of fibres surrounding the cells is shown, also the fibrillated appearance of the cytoplasm of the cells. The small, deeply stained, rounded or oval nuclei which appear here and there probably belong to amphicytes.

A slide made from this spinal mass was taken to the surgical pathological laboratory of the College of Physicians and Surgeons but at that time its true nature was not suspected. About one and one-quarter years later it happened that the slides made from the thoracic and spinal masses were seen together and the marked



No. 4076. Surgical Pathology, Columbia University.

FIGURE IV

Photograph of drawing made from a microscopic slide of tissue removed from tumor mass in the spinal canal. G.G.—groups of ganglion cells surrounded by tangled network of fibrils exactly like those found in Figures II and III. The intervening tissue is fibrous and is arranged in interlacing bands.

resemblance of the characteristic large multinucleated cell in both sections to one another and to those cells described as characteristic of the ganglioneuromata was noted. It was then too late to obtain more material fixed in the proper manner to make the various differential nerve stains so that it is impossible to prove whether the fibrils surrounding the large cells are medullated or non-medullated nerve fibers, neuroglia, or some other type of tissue.

However, the history of the case, the age of the individual, the situation and mode of growth of the tumor and finally its microscopic appearance seem evidence enough to class this neoplasm with the ganglioneuromata. It is probable that it started in the sympathetic ganglia that lie in front of the upper thoracic vertebrae. It may have started extra-durally in the spinal canal because the mass in this situation was the first to give symptoms. In either event it passed through an intevertebral foramen and when first seen at the Presbyterian Hospital it undoubtedly occupied not only the left upper thorax but also existed in the upper dorsal region of the spinal canal.

Two reported cases have been observed in the region occupied by this tumor. The first case ever described in which the real nature of the tumor was recognized was that of Loretz[10]. In 1870 he described an autopsy made on a female, thirty-five years old, with a tumor in the region of the second and third thoracic vertebrae and projecting into the upper left thoracic cavity. It extended into two intervertebral foramina. It was encapsulated and measured 7.5 by 4.5 cm. On cross section it had a central greyish area and a firm bright area about the periphery making it look like the cross section of a uterus. Under the microscope were seen many large cells containing one or more nuclei and gathered into small groups. These cells resemble ganglion cells of the unipolar, bipolar, and apolar types. The groups were separated by connective tissue. This description fits the case here reported almost exactly. A somewhat similar case was reported by Friederich[11] in 1911 of a tumor which corresponded to the sixth to eighth vertebrae and which projected to the right side.

A GANGLIONEUROMA OF THE RETROPLEURAL REGION

Case History

M.B. MALE 2½ years American History Number 30024

Admitted to the Presbyterian Hospital December 6, 1915.

Chief Complaint: Abdominal pain—weakness of legs.

Duration: Seven months.

Present Illness: Was a perfectly healthy baby up to seven months ago. Then began to have pain in stomach region, relieved by injections. Four weeks later he began to cry every night. He was treated by private doctors and at Babies' Hospital for stomach trouble without relief. He did not lose weight. Four months ago he began to be unsteady on his feet; this was thought to be due to weakness at the time. Soon he began to drag his right foot when he walked. Finally he got so weak that he could only crawl. He next developed weakness of the back so that he could not sit up without support. He reached this state three and one-half months ago and has been in the same condition ever since. Five weeks ago he lost control of bladder and anal sphincters. He has had no convulsions; eyesight and hearing unaffected.

Past History: Full term, normal labor, breast fed. Development normal. Sat alone at eight months; stood at twelve months; walked at fourteen months. Began to say "mama" at ten months. Can talk now. Was thought to have had diphtheria shortly before onset of present illness.

Family History: Mother has one other child alive and well. One miscarriage. No tuberculosis or other diseases in family.

Physical Examination: A well developed and nourished child that does not appear ill. Mentally active.

Skin: Smooth, moist, no eruptions.

Glandular System: No enlargements found.

Head: Measures 49 cm. Sutures and fontanelles all closed.

Eyes: Pupils equal and react to light. No strabismus.

Ears: No discharge.

Nose: Clear breathing.

Mouth: Teeth regular in size, shape and number.

Pharynx: No adenoids or enlarged tonsils.

Thorax: Measures 51 cm. Symmetrical, broad and deep. Breaths heavily with a rattling noise and palpable fremitus. No edema.

Lungs: Resonant throughout with a marked dullness over the left upper lobe front and back. The breath sounds are everywhere harsh and accompanied by sibilant sonorous and moist rales. There is a bronchial quality to the breath sounds front and back over the left upper lobe.

Heart: Seems normally placed. The sounds are obscured by the rales; they seem of good quality, no murmurs heard.

Pulses: Equal, regular, moderate tension

Abdomen: Measures 55 cm. about umbilicus. It is rather prominent, soft; nothing felt on palpation.

Spinal Column: There is a marked anterior curvature of the thoracic vertebrae (probably due to weakness of the back muscles). The cervical vertebrae are markedly fixed and rigid.

Extremities: The child can move all its extremities but cannot stand. The right leg seems weaker than the left. He can flex both legs at the hip and knee and can hold both legs stiff off the bed but cannot raise the right as well as the left. He can not sit without support but falls toward the left. No spasticity or flaccidity. Koenig present in both legs. Reflexes all active and present. Ankle clonus both sides R L. Sensations seem diminished. Can feel a pin prick but does not cry at a painful jab in the lower extremities or trunk; really shows no sign of pain. In the arms however he reacts markedly and cries at a painful prick No band of hyperaesthesia.

Eye Grounds: Normal.

Laboratory Examinations: Throat culture—no Klebs-Loeffler.

Blood Wassermann: Negative.

Spinal Fluid Wassermann: One—one negative

Spinal Fluid Noguchi: Markedly positive:—cell count:—Total leukocytes 1, red blood cells, 0.

Blood Counts:	W.B.C.	11,800	P. 33	L 65	Eos. 2
		11,800	P. 56	L 40	L Mono 4

Urine Examinations: Negative.

X-Rays: Showed a dense shadow over upper portion of left lung which was thought to be a new growth.

Temperature: Ranged around 99°—100° with occasional rises to 101°. For three weeks before discharge it stayed at 99°.

Pulse: At first varied from 100 to 160. It finally kept down around 100—170.

Course in the Hospital: The child came into the hospital apparently suffering from bronchitis which shortly cleared up, leaving the signs in the upper left chest.

Four days after admission a needle was put into the third left interspace in the anterior axillary line. No fluid was found but a piece of tissue was found inside the lumen of the needle. The child was kept under observation in the hospital for two months. There was no improvement in his general condition and practically no change in the signs. When he left a bedsore was developing on his buttocks.

Subsequent Course: In early part of July, 1916, the child was operated upon at the Neurological Institute by Drs. Elsberg and Neuhof. At that time there was found in the spinal canal, occupying the upper dorsal region and extending up into the cervical region a very long encapsulated tumor, extradural and continuous with the mass in the chest by an extension through an intervertebral foramen. Child died shortly after as a result of the operative procedure. No autopsy.

Gross Examination:—(Presbyterian Hospital Surgical Pathological Number 17871). No. 4076. Surgical Pathology, Columbia University. Material found in needle after exploratory puncture of the left upper thorax. The specimen is a small greyish bit of tissue measuring 3 x 2 x 3 mm.

Microscopic Examination: (See Figures II and III) Formalin fixation, paraffin embedding, Hematoxylin stain.

The salient feature is the presence of a number of large cells with one or more nuclei. These are scattered irregularly throughout a dense network of tangled fibrils. A few strands of fibrous tissue are seen. The cells are irregular in shape but tend to be rounded or oval. The cytoplasm takes a reddish brown stain not unlike that seen in liver cells. Under high magnification (see Figure III) the cytoplasm is seen to contain many irregular fibrils which in some instances seem to be continuous with the fibrils of the intercellular substance. Both stain red. These intercellular fibrils are very numerous forming the major portion of the bulk of the tissue. This proportionately large number of nerve fibrils (if such they be) has been explained by Falk[2] who says that while ganglion cells may proliferate and produce many fibrils in these tumors, the ganglion cells are short lived and prone to early disintegration. The fibrils however, do not disappear so that what one really sees is a great tangled mass of fibrils which have grown out not only from the existing ganglion cells but also from all the ones that have had a previous existence. The many nuclei in the cells and the large and irregular size of the cell has been explained on the ground that mature ganglion cells proliferate only by direct division and are incapable of mitoses. No mitotic figures were found in any of the sections.

In addition to the large ganglion cells and connective tissue cells there are a number of small rounded deeply staining nuclei scattered about among the fibrils at intervals. These may be wandering round cells or they may possibly be proliferated supporting cells (amphicytes). The amphicytes are analogous in the sympathetic system to the lemmocytes and the neurologia cells of the central nervous system. With this stain it is impossible to say definitely which they are.

Microscopic examination (see Figure IV) of Columbia University, Surgical Pathological Number 4076. Hematoxylin and eosin stained section made from tissue removed from the spinal canal at the Neurological Institute.

The section shows a dense mass of fibrous tissue arranged in interlacing bands. Scattered at rather wide intervals are a number of groups of large cells containing one or more nuclei and surrounded by a tangled skein of fibrils. These groups of cells surrounded by fibrils are similar in every way to the cells and fibrils found in the tissue from the thorax already described. The only difference noted between the two sections is the relatively greater proportion of fibrous tissue in the section from the mass from the spinal canal.

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CONDITIONS OF THE EPIDIDYMIS SIMULATING CARCINOMA.*

By A. P. Stout, M. D.

In many surgical conditions it is often difficult for the microscopist to distinguish a chronic inflammatory from a neoplastic condition. This is because of the extensive epithelial hyperplasia which may occur incidental to chronic inflammation. This hyperplasia has been noted in sections from the margin of ulcers, from epithelial lined canals and in many of the tubular glands.

The epididymis and the vas deferens are often involved in chronic inflammation, the common causes of which are tuberculosis, gonorrhoea and syphilis. Aside from these, however, there are supposed to be other chronic inflammations, the source of which cannot be ascertained. These are passed over in most of the recent pathologies with the bald statement that such conditions exist.

In the 1886 edition of Ziegler's Pathological Anatomy (volume II, page 895), however, a more detailed description of the histology of cryptogenic chronic inflammation is given of which the following is a rough translation: "In the epididymis the distorted ducts appear at times like the cords and masses of cancer building. Under the microscope one can see atypical epithelial growths and the cell cords can be increased in number. Sometimes the epithelial cells produce mucus so that mucous cysts occur. The canals may be filled with desquamated and fat swollen cells."

As may well be imagined from reading this description, pitfalls exist for the unwary, in differentiating chronic inflammation from carcinoma when the two conditions so closely approximate one another under the microscope.

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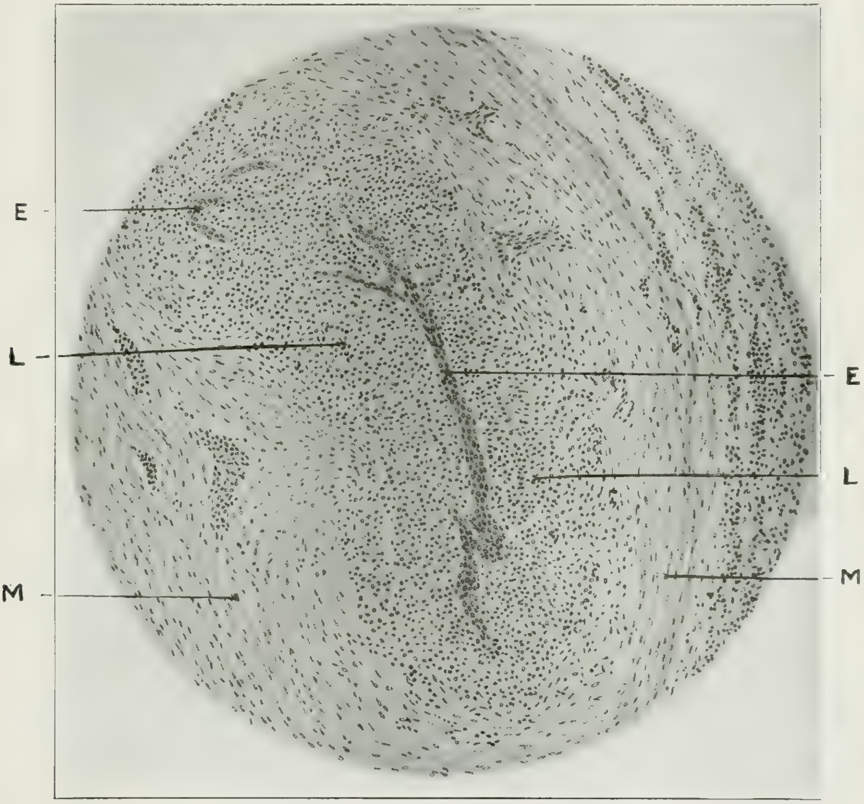
*Read at a meeting of the New York Pathological Society, November 14th, 1917.

The first two of the following cases illustrate this point very well. They are on the border line between malignant epithelial neo-



No. 4661. Surgical Pathology, Columbia University.

FIGURE I

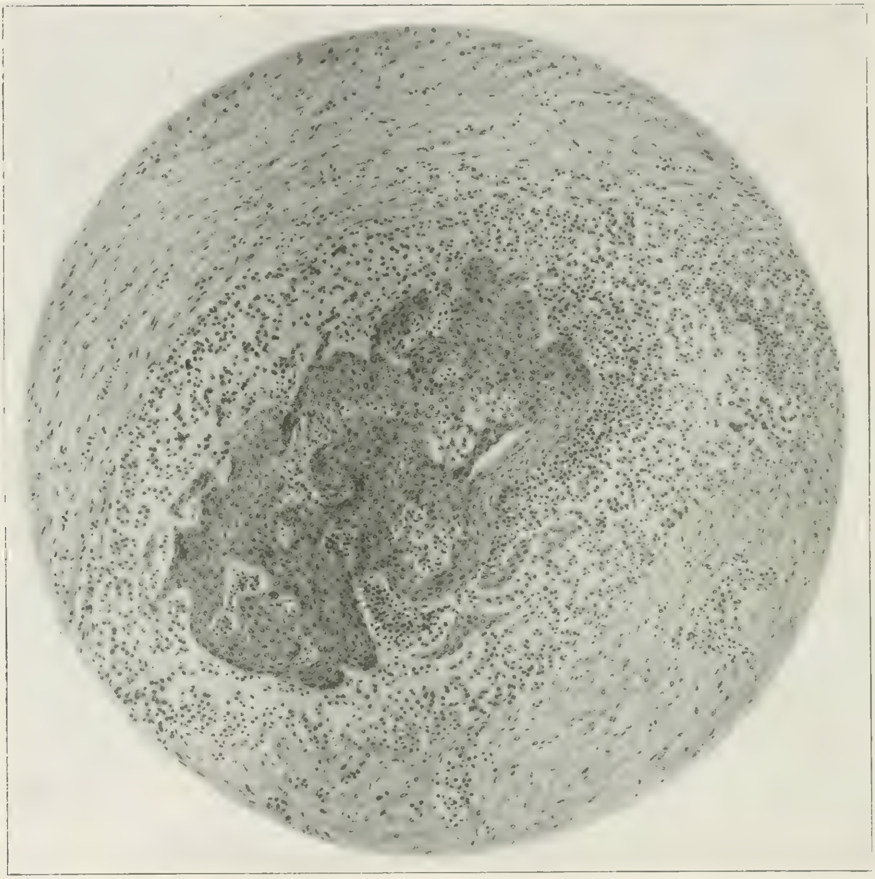
Case I—Photograph of drawing made from a microscope slide of an altered tubule in the epididymis.

E.E.—Strands of epithelial cells marking site of tubule lumen which is obliterated.

L.L.—Zone of submucous tissue densely infiltrated with leukocytes and round cells.

M.M.—Layer of smooth muscle fibers.

plasm and hyperplasia of the duct epithelium due to chronic inflammation. In the first case some of the tubules are tremendously dilated and the lumen entirely filled with large pale staining epithelial cells. Others have no lumen at all but are represented by a slender alveolar strand of epithelial cells which are smaller in size



No. 4661. Surgical Pathology, Columbia University.
FIGURE II

Case I—Photograph of drawing from a microscopic slide of a cross section of the vas deferens. It shows a mass of hyperplastic epithelial cells apparently completely filling the lumen. The submucous connective tissue is densely infiltrated with leukocytes. The circular layer of smooth muscle about the periphery of the picture is also infiltrated with leukocytes and round cells.

and somewhat more deeply stained (Fig. I). The latter phase, which has been attributed to atrophy following prolonged irritation, is the one which superficially simulates alveolar carcinoma. This case is undoubtedly due to chronic inflammation, possibly of gonococcal origin since there is a definite history of preceding gonorrhoea. There is, however, no history of any acute attack of epididymitis and examination of the blood serum shortly after the operation gave a negative gonococcus complement fixation test.

In the second case the tubules are represented by masses of epithelial cells, large, deeply staining and showing occasional mitotic figures. The periphery of these masses is wavy and ill defined (Fig. III). Here we are dealing with a picture which if it appeared elsewhere in the body would be pronounced carcinoma without question. Indeed several pathologists to whom slides were submitted made an unqualified diagnosis of carcinoma. It is well known, however, that in the breast, for instance, one may have a hyperplasia of the epithelium lining the acini and ducts, giving a microscopic picture about which no group of pathologists to whom it is submitted can come to an unanimous decision. Since there has been a disagreement about the diagnosis in this case, it has been included here, to emphasize the existence of a border zone between the microscopic pictures of chronic epididymitis and carcinoma.†

Case III records a mistake in diagnosis from a quick frozen section stained with thionin at the time of operation and the reason for the mistake. Briefly the sequence of events was as follows: At operation, the surgeon found what was thought to be a mass composed of carcinomatous lymph glands blocking the common and cystic ducts and adherent to the hepatic flexure of the colon. The

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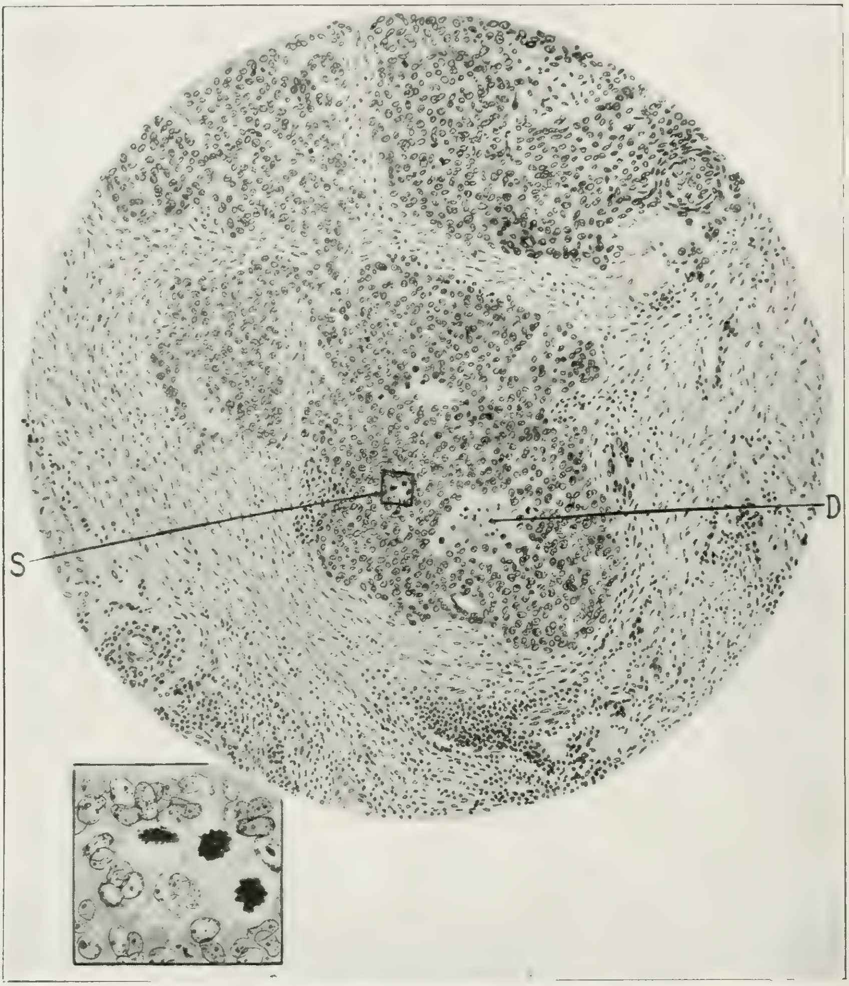
†Unfortunately since this patient lives out of town it has been impossible to ascertain anything about his present condition beyond the bare fact that he was alive nine months after his operation.

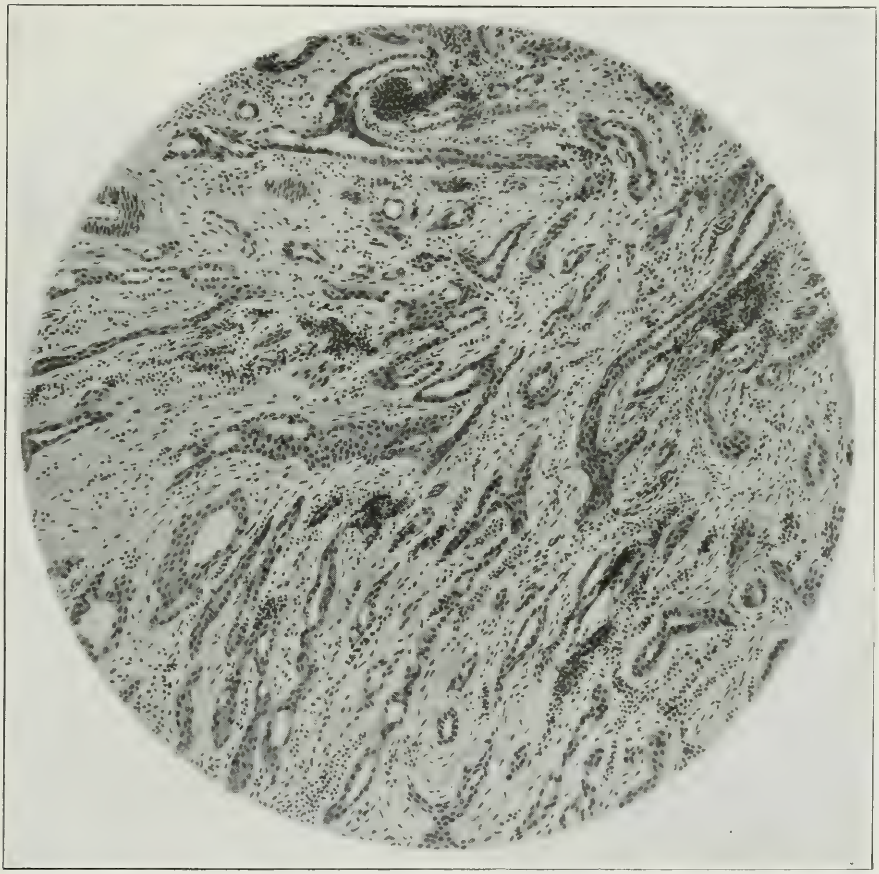


No. 4336. Surgical Pathology, Columbia University.

FIGURE III

Case II—Photograph of drawing made from epididymis showing masses of epithelial cells occupying the sites of former tubules. Notice that masses have no definite line of demarcation separating them from surrounding tissue. D—Area of degeneration. S—Square about cells which are reproduced in greater magnification in the lower left hand corner of the picture to show the presence of mitoses.

man had a nodule in his scrotum which was attached to the lower pole of the epididymis which had been discovered by chance during the routine physical examination. The patient himself was ignorant of its existence. It was excised and a quick frozen section made in the belief that it might be the primary tumor from which the mass



No. 4662. Surgical Pathology, Columbia University.

FIGURE IV

Case III—Photograph of drawing made from a microscopic slide of tissue taken from periphery of tumor in epididymis. All of the numerous tubular structures shown are small blood vessels with unusually prominent hyperplastic endothelial cells making them simulate atypical epithelial tubular glands.

about the common duct was a metastasis. The section showed interlacing strands of smooth muscle and connective tissue and in addition, a number of irregular tubules lined with prominent swollen cuboidal cells (Plate IV). The picture was apparently that of adenocarcinoma and this diagnosis was made. Five days afterward the man died of post-operative pneumonia and autopsy revealed that he had a primary adenocarcinoma of the common duct. Further sections were then made of the mass from the epididymis and stained both with hematoxylin and eosin and Van Gieson. These demonstrated that what had been taken for epithelial lined tubules were in reality blood or lymphatic vessels lined with swollen prominent endothelial cells. The rest of the tumor was composed entirely of smooth muscle and connective tissue without any of the tubules of the epididymis or signs of chronic inflammation. There seems little doubt that the mass was a fibromyoma.

CASE REPORTS

CASE I. History No. 32806. Surgical Pathological No. 18927.

H. O. Age 37. Married. Nativity, Austrian. Occupation, presser.

Chief Complaint: Fifteen days ago, he noticed that his left testicle had become larger by three times than usual and was soft and painful, more painful when he touched it. It pained him for three days only. Six or seven days after the onset it became stony hard. It has remained the same size and consistency ever since.

Past History: At seven years he jumped and his left testicle hurt him for one day. At thirteen he hit his left testicle; it pained him and became slightly enlarged but went down next day. At eighteen the left testicle became large and painful, apparently spontaneously, but in two days the pain and swelling had disappeared.

No operations except polyps in the nose removed.

Malaria in Jamaica one year ago. Gonorrhea seven years ago and two years ago; denies any pain in testicle following these attacks. No sore throats.

Personal History: Moderate coffee, tea and alcohol.

Coughs at night but has no night sweats. Sleeps with his window open. His work takes him out into the air.

FAMILY HISTORY: No tuberculosis. Mother, father, four brothers living and well, none died.

PHYSICAL EXAMINATION: *Surgical Condition:* The left side of the scrotum is considerably larger than the right. It contains a large oval mass 3 x 2 inches. The testicle is of normal size and can be seen outlined on the middle of the anterior surface of the mass which is made up largely of epididymis. The globus minor is hard and cartilaginous; the globus major large but softer. The vas is thickened and beaded. Rectal: Prostate of normal size; above the centre of the prostate is a small irregular mass, firm, not tender, probably involved left seminal vesicle. There is a small nodule on the upper border of the right side of the prostate which may be in the substance of the prostate or the right seminal vesicle. Physical examination otherwise negative.

LABORATORY EXAMINATION: Urine and sputum negative for tuberculosis.

Fluid from prostatic massage negative for tuberculosis.

Wassermann negative.

X-ray of chest, clear.

Urine showed few pus cells and staph. aureus on culture.

OPERATION: Epididymectomy. October 16, 1916.

FINDINGS AT OPERATION: The epididymis was enlarged, hard and nodular. There were nodules extending at various intervals up along the entire length of the vas deferens as far as it could be made out and the tunica vaginalis was distended and tense with clear fluid. The soft structures about the testicle were edematous and adherent. The epididymis was adherent to the testicle at various points but dissected free without a great deal of difficulty.

GROSS SPECIMEN: Specimen consists of epididymis and attached tissue, 5 x 3½ x 2 cm. The segment of vas attached to it is 10 cm. long. It is much swollen, reddened and the tunics are at least 8 mm. in thickness. There is no caseation or necrosis of any kind in epididymis. The vas which is about 4 mm. in diameter near its base shows no gross lesions.

MICROSCOPIC EXAMINATION: Section from the epididymis shows that the glandular tissue is largely destroyed; what remains is undergoing degeneration and is infiltrated with many round cells. At several points are small interlacing strands of epithelial cells growing in small groups. The same type of growth has replaced the mucosa of the vas deferens at a point about one-half inch from the epididymis.

Another section of the epididymis at its junction with the vas however, shows an intact mucosa and no sign of growth. The stroma of the epididymis is edematous and infiltrated with many round and polynuclear leukocytes, but there is no new growth. Section from the tunica vaginalis shows edema and thickening.

POST OPERATIVE COURSE: Uneventful, except for superficial infection of the operative wound.

DISCHARGED: Improved on 15th day post operation.

Note, Feb. 15, 1917 (4 months post op.): Testicle on operated side is larger than mate. No tenderness. Feels perfectly well; wears a suspensory. Rectal examination reveals two, firm, non tender nodules near left seminal vesicle. Blood serum gonococcus comp. fix. negative.

Note, Oct. 15, 1917 (1 year post op.): Patient now a window cleaner. No longer wears truss; has perfect health. Left testicle now same size as right testicle and epididymis put together. Nodules near seminal vesicle just the same.

CASE II.

H. S. 39 years U. S. A. Occupation, Clergyman.

Admitted to Roosevelt Hospital February 8, 1917.

PRESENT HISTORY: Six weeks ago had a dragging pain in right testicle, tender to touch. Four weeks ago noticed lump in the back part of right testicle. A suspensory relieved the pain but the lump kept on increasing in size.

PAST AND FAMILY HISTORY: Unknown.

PHYSICAL EXAMINATION: Revealed a hard swelling of the right epididymis, chiefly in the globus major.

LABORATORY EXAMINATION: Wassermann—negative. Urine normal.

OPERATION: (By Dr. Dowd at R. H., February 9, 1917. Ante operative diagnosis:—Tuberculosis of Epididymis).

Part of epididymis with adherent testicle and a bit of vas deferens removed.

GROSS SPECIMEN: (R. H. Path. S. A. 1914) Specimen is an irregular piece of tissue, 3 x 2 cm. On one surface it has a glistening membrane, the other surface is rough. On cross section it presents a pearly white firm appearance with areas of soft gelatinous substance at intervals through it.

MICROSCOPIC EXAMINATION: In many instances the epithelium lining the tubules of the epididymis has grown so as to completely fill up the lumen which is greatly dilated. The cells are large, irregular with vesicular nucleus, cloudy cytoplasm and in many cases showing atypical mitoses. The cells in the central portion of the tubules are in some cases degenerated. Surrounding the tubules, between the connective tissue and smooth muscle bundles are a great number of round cells. These epithelial masses do not always have a sharply defined limiting membrane but in many cases have irregular, indefinite edges. Most of the blood vessels of the stroma show subintimal fibrosis. One or two sections show relatively normal appearing epididymis tubules in close proximity to the altered ones.

Note: Because of the possibility of carcinoma the rest of the testicle epididymis and some more of the vas were removed on February 19, 1917 (10 days later). They were apparently normal both grossly and microscopically.

Discharged: Discharged from Hospital, March 17, 1917—36 days after the first operation.

November 8, 1917 (9 months post operation) alive but condition unknown.

CASE III. History No. 35418. Surgical Pathology No. 19902.

E. R. 57 years. Widowed Nativity, England Occupation, Clerk

Chief Complaint: Jaundice, sour eructations—duration 4 weeks

Family History: No cancer.

Present Illness: Four weeks ago following a heavy meal was nauseated and had heart burn and feeling of lump in epigastrium. Took soda bicarbonate, and vomited a large amount of brownish semi-fluid material. Since then has not been nauseated nor vomited but eructations and sensation of lump in stomach continued. Can eat regularly but has epigastric pains and burning sensation immediately after meals, relieved by soda bicarbonate. Very constipated, takes many cathartics. Stools are grey, hard, and streaked with bright blood.

Jaundice noted one week after first attack and grew worse.

Skin itches extremely.

Thinks he has been losing weight for the past four weeks.

Past and Personal History: Not alcoholic—20 cigarettes per day.

Measles, scarlet fever, whooping cough, two attacks of croup each year until 14.

In adult life has had malaria twice, Neisser infection once. Has had a constant cough for the past twelve years. Thinks he has always had a weak stomach and vomits easily.

Nocturia for the past 5 or 6 years. Constipated for the past 10 years.

When 12 years old was getting off an old-fashioned bicycle and struck scrotum on the iron frame—felt sick for three days. Shortly after noted that testes hung very low and were continually swollen. (Did not know of lump until showed to him at physical examination).

Father of eight children.

Physical Examination: Abdomen:—The liver extends from 5th rib to from 10 to 11 cm. below the costal margin on deep inspiration. In the right lobe is a nodular mass, not tender. Abdomen otherwise negative. General appearance—extreme jaundice and somewhat cachetic. Inguinal rings.—hernia on both sides.

Genitals: In left scrotum is a hard rounded mass about 2 cm. in diameter, encapsulated and apparently attached to epididymis.

Physical examination otherwise negative.

Laboratory Findings: Blood: W.B.C. 9,800. P. 50. L. 47. Tr. 3.
R.B.C. 4,500,000. Hgb. 60%.
Wassermann negative.
R.B.C. fragility. Ristant to hypotonic saline.

Gastric Contents: Free Hcl. 26-44. T.A. 34-60. Otherwise negative.

Stool: Clay colored—no blood. No amylase in feces.

Operation: Exploratory Celiotomy. Cholecystostomy. Excision of mass from scrotum.

Findings at Operation: Along the portal tissure extending from the head of the pancreas to the gall bladder and blocking off the common and cystic duct by pressure without were several very hard nodular masses varying from ½ to 1½ cm.

The gall bladder was moderately distended. The hepatic flexure of the colon was firmly adherent to the mass of nodules. Rest of peritoneal cavity, negative.

Nodule in scrotum was attached to the lower pole of the epididymis. It was well defined but not encapsulated. Cross section gave the typical appearance of a fibroid. Running through the surface of this mass are many blood vessels.

Gross Specimen: Specimen is a small hard nodule about 1 cm. in diameter to which is attached some fatty and areolar tissue. On section the cut surface has a yellow appearance with numerous interlacing strands of fibrous tissue running in all directions.

Microscopic Examination: The major portion of the mass is composed of dense portions of smooth muscle separated from one another by loose bands of areolar connective tissue infiltrated with round cells, plasma cells and occasional collections of lymphoid cells. Around the periphery of the mass and to a less extent in its interior are a considerable number of what appear to be small blood or lymphatic vessels, the walls of which are swollen and in some cases composed of hyperplastic endothelial cells giving them the appearance of atypical tubules lined with epithelium. About the periphery are also dilated thick walled veins, the thickening being due to both subintimal and intermuscular fibrosis. None of the sections show any epithelial cells. The distribution of smooth muscle and connective tissue above described is confirmed by a van Gieson stain.

Course: Patient developed a post-operative pneumonia, became more jaundiced and died on the fifth day.

Autopsy: (By Dr. R. Lambert) The common, hepatic and cystic ducts were completely occluded by a firm yellowish mass, 4 cm. in diameter apparently springing from the cystic duct. The common bile duct on the liver side of this is greatly dilated measuring 1 cm. in diameter.

The liver weighed 1600 grams.

Autopsy showed a typical primary carcinoma of the neck of the gall bladder and cystic duct forming a scirrhus mass which pressed on the hepatic duct. Below this point the hepatic duct was collapsed and of normal size, whereas above this point it was enormously dilated. It was not, however, invaded by the tumor. No metastases were found in the liver, lymph nodes or other organs.

A piece of the epididymis tumor was given us by the surgical pathological laboratory. Paraffin sections of this show it to be made up of bundles of smooth muscles with connective tissue stroma and many blood vessels lined by unusually prominent endothelial cells.

In the rapid frozen section, during the operation, these blood vessels had been interpreted as epithelial lined spaces and thus led to the incorrect diagnosis of primary carcinoma of the epididymis.

ANATOMICAL DIAGNOSIS: Carcinoma of cystic duct with compression of hepatic duct causing

Jaundice of liver and other organs.

Lobular Pneumonia (extensive, involving both lungs).

Cloudy swelling of liver and kidney.

Arteriosclerosis of kidney (slight).

Fibromyoma of Epididymis.

A TUMOR OF THE ULNAR NERVE.*

A. P. STOUT, M. D.

Recently there has been a great deal of interest evinced in tumors arising from the various derivatives of the neural ectoderm. Marchand[1], Wright[2], Martius[3], and a number of other observers have described tumors arising from the neurocytes or neuroblasts of the sympathetic and cerebro-spinal system; and these tumors are now very generally known under the names malignant neuroblastoma, neurocytoma, ganglioneuroma and chromaffine tumors[4 5 6]. All these cells are the more or less undifferentiated forerunners of the true nerve cells of the sympathetic and cerebro-spinal system[5].

The nerve cells, however, are not the only derivatives of the neuroectoderm. Certain of the smaller cells of the neural crest develop into the so-called "indifferent cells" or "supporting cells" and these in turn form in the brain and cord the neuroglia and ependyma cells; in the spinal ganglia, the amphicytes and in the peripheral nerves, the lemmocytes which develop into the neurilemma or sheath of Schwann cells.

The origin of the neurilemma cells is still a matter of debate, because according to one view they are of mesodermal origin. The majority of neural anatomists, however, believe that certain of the smaller cells in the neural crest instead of becoming nerve cells wander out along the nerve fibers and become the neurilemma cells. This view is strongly supported by the work of Harrison[7], who found that in certain types the removal of the neural crest resulted in the formation of efferent nerves without neurilemma cells. If this view is accepted, the neurilemma cells must be considered strictly comparable to the neuroglia cells of the neural tube.

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*Read at a meeting of the New York Pathological Society, January 9th, 1918.

The gliomata or tumors arising from neuroglia cells are found only in the brain, the cord, along the course of certain cerebral nerves and in the retina. In certain of the retinal gliomata there occurs a concentric grouping of cells about a central lumen or cavity which is accentuated by a circular membrane which lies at a short

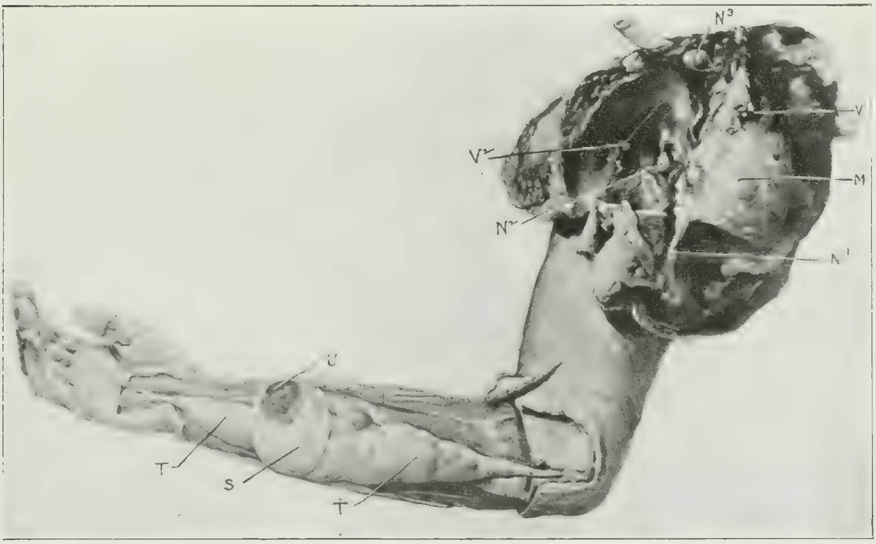

Figure I

No. 20464. Surgical Pathology, Presbyterian Hospital.

Photograph of sketch of dissected upper extremity.

TT—Tumor occupying course of ulnar nerve.

U—Ulcerated surface of tumor.

S—Area of skin infiltrated by tumor tissue.

M—Large axillary mass dissected and reflected back from its bed.

V¹—Great vessels and nerves passing through top of mass (cut and reflected with mass).

V²—The peripheral ends of great vessels and nerves at the bottom of the cavity from which the mass M was reflected.

N¹—Nodule in course of long thoracic nerve.

N²—Nodule in substance of subscapularis muscle.

N³—Another axillary nodule.

distance internal to the innermost layer of tumor cells. Flexner[8] and Wintersteiner[9] believed that these so-called "rosettes" represented cells from the layer of rods and cones and that the tumor should be called a neuro-epithelioma. This view is still supported by some, notably MacCallum[10], and Mallory[11]. Pusey[12], however, used the Mallory stain and demonstrated that glia fibrils extended from the cells surrounding the rosette to the edge of the lumen forming there a distinct circular ring and sometimes passing beyond this into the lumen. An appearance somewhat similar to this is found in the ependymal gliomata when the ependymal cells form

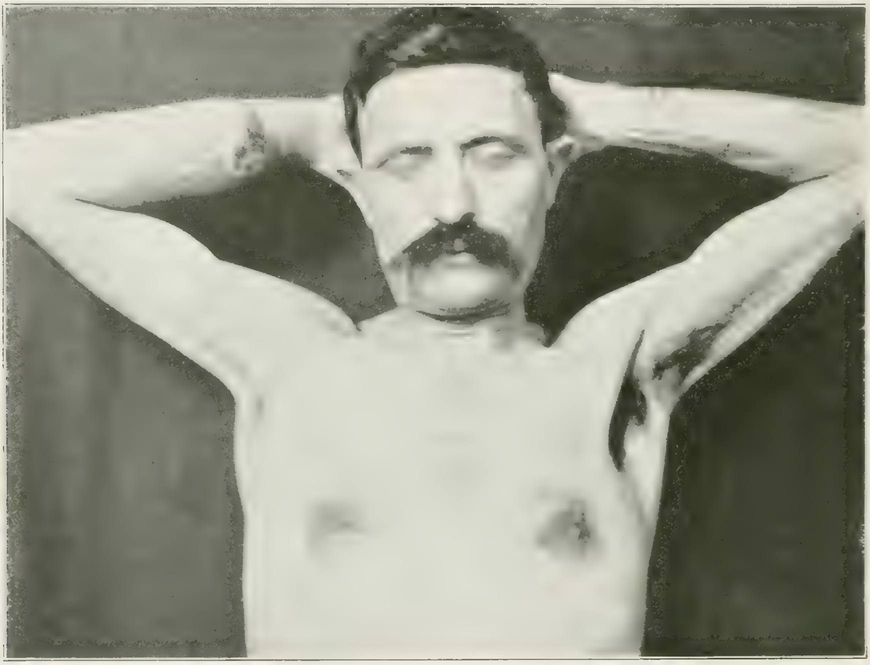

PLATE 1

Photograph of patient before operation showing mass in forearm with ulcerated surface and partial obliteration of the right axillary fossa and anterior axillary fold by the metastatic mass.

pseudo glandular structures which Mallory[11] has shown to be formed of ependymal cells.

In passing it may be noted that these rosettes differ from those described as characteristic of the neuroblastomata, in that the latter are small concentric aggregations of cells separated from surrounding cell groups by a considerable amount of fibrillar ground substance. The fibers of this ground substance and the fibers forming the centre of the rosette take a stain which is characteristic neither of collagen or neuroglia. Kuster[13] described two tumors of the adrenal medulla with rosettes in them which he and Ribbert believed were similar to the gliomata of the brain and they called the tumors gliomata. These rosettes, however, are, as his drawings show, similar to the formative sympathetic cell clusters and Wiesel[14] recognized this fact. Since that time authors generally have considered Kuster's cases as malignant neuroblastomata. It is hard to imagine how neuroglia could be found in the adrenal medulla.

If the literature dealing with the tumors of the Gasserian ganglion is considered it appears that Marchand[1] in discussing the possible sources of origin for his tumor suggested that it might have come from the cells forming the sheath of Schwann but finally decided that it was a neurocytoma or tumor arising from the undifferentiated cells of the central nervous system. Sachs[15], Spiller[16], and Dercum, Keen and Spiller[17] have reported cases which they believed resembled Marchand's cases. Sachs has some good microphotographs which show that the tumor is composed of solid strands of epithelial like cells separated by thick strands of connective tissue. Here and there are rounded holes among the tumor cells with a distinct membrane about them. On this account Sachs thought the tumor ought to be called an endothelioma. It is interesting to note that this case and that of Dercum, Keen and Spiller were malignant tumors metastasizing in the cervical lymph glands. None of these investigators used the Mallory stain.

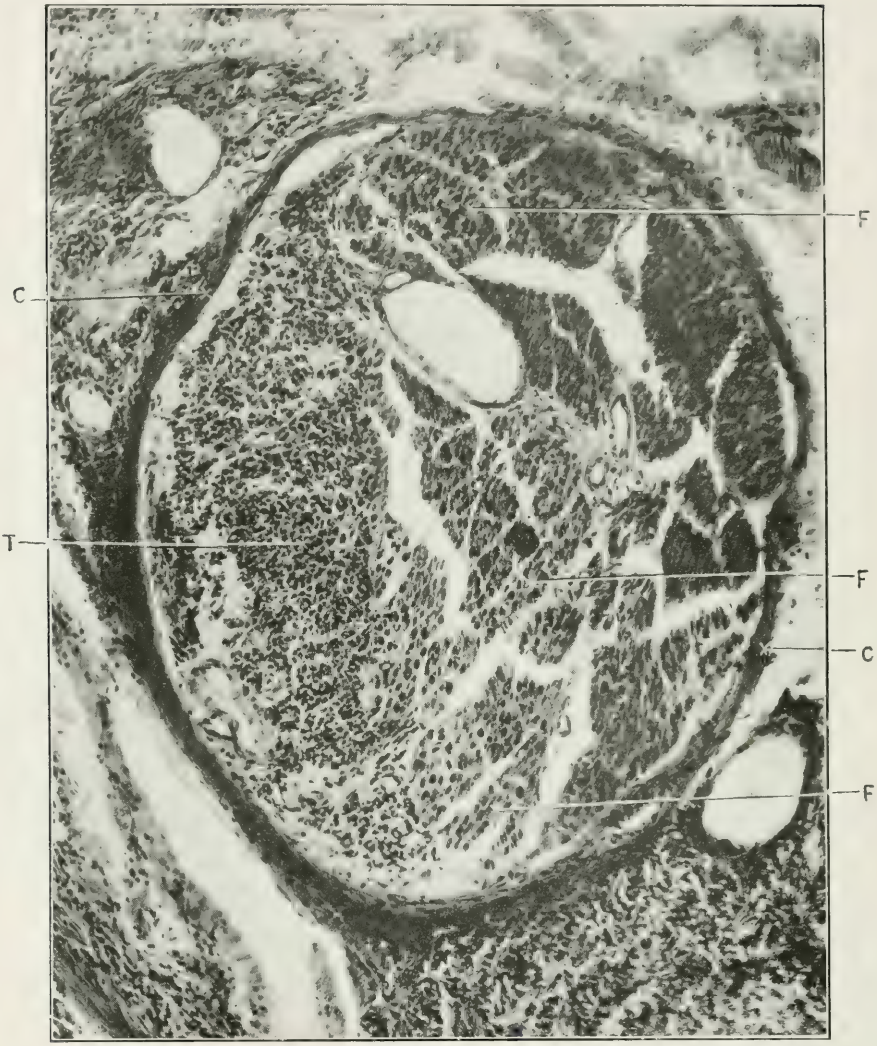

FIGURE II

No. 20464. Surgical Pathology, Presbyterian Hospital.

Microphotograph of section of tumor taken just below internal epicondyle of humerus. A bundle of nerve fibres in its connective tissue capsule(c) is shown with a mass of tumor cells(t) sharing the space and in intimate relationship with the bundles of nerve fibrils(f).

Note large size and hyperplasia of the neurilemma cells.

Turning now to tumors arising in the peripheral nerves one is impressed with the fact that the literature is very scanty, but the majority of authors consulted seem to agree that whether single or multiple, malignant or benign, they are of mesodermal origin coming from the epineural or perineural tissue. Some of them have in addition an overgrowth of nerve fibers[18 19 20]. In 1908, on the other hand, Verocay[21] described a case with multiple tumors of the nervous system which showed in many of the nodules in the peripheral nerves what he believed to be a marked growth of cells of the sheath of Schwann. He is thus the first author to suggest that the neurilemma cells may be the source of tumors of the peripheral nerves. This view is looked upon with favor by Borst writing in Aschoff's Text Book[22].

In this connection the result of sectioning peripheral nerves is of great interest. Tinel[23], in a book which has just appeared on Nerve Wounds, makes the following statements: If a peripheral nerve be sectioned there appears on the central end the classic amputation neuroma. This is composed of tangled nerve fibrils embedded in fibrous tissue which is sprinkled with numerous cells resulting from the proliferation of the cells of the sheath of Schwann. The peripheral end presents a swelling which is composed solely of the excessive proliferation of the cells of the sheath of Schwann. This Nageotte calls a false neuroma or glioma. It is of course not a true neoplasm but a hyperplasia and is comparable to that which occurs in hyperplasia of scar tissue or false keloid.

The tumor under consideration started nine months before operation as a swelling on the anterior aspect of the right forearm of a male Italian laborer, forty-two years old, who was otherwise apparently well. One and one-half months after its appearance he noticed a mass in the axilla on the same side. There was only partial interference with the function of the ulnar nerve noted.

Interscapulo-thoracic amputation was performed by Dr. A. V. S. Lambert, November 20th, 1917. Examination of the arm showed

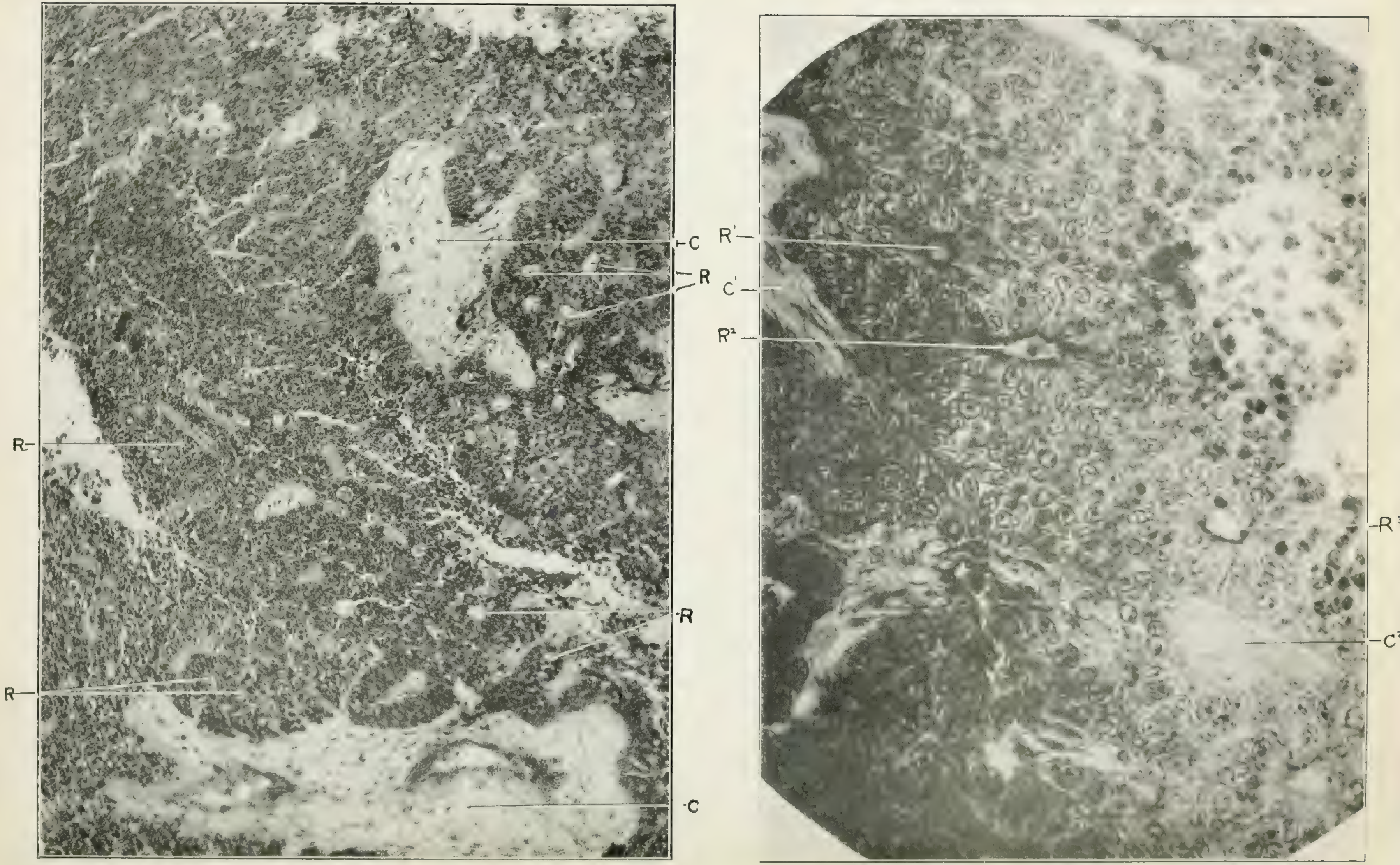

FIGURE III. Mallory stain — High power microphotograph of three rosettes R^1, R^2, R^3—showing deeply stained membrane or rim from which radiates the fine fibrils between the surrounding cells. C^1 and C^2 are trabeculae of connective tissue.

a fusiform tumor occupying the course of the ulnar nerve apparently starting within its sheath at that point in the palm of the hand where the nerve splits up into its terminal branches and extending to a point just below the internal epicondyle of the humerus. The tumor was circumscribed and was dissected away from the surrounding muscles only with difficulty. At its thickest point it was adherent to the skin which was ulcerated. In the axilla was one large mass of the same appearance and consistency as the nerve tumor measuring 15 x 14 x 5 cm. and through which passed the great axillary vessels and nerves, some of the intercostal nerves and the long thoracic nerve. Adjacent to this were numerous rounded nodules from 1 to 2 cm. in diameter which appeared some in the surrounding muscles, one, at least, in the course of the long thoracic nerve and others were found at operation in the supraclavicular fossa. These may be interpreted in three different ways: (1) They may be metastases; (2) they may be direct extensions along the nerve trunk; (3) they may be independent tumors since tumors of the peripheral nerves are often multiple. The material has not yet been sufficiently studied to determine which is the correct hypothesis. Personally, I believe them to be metastases.

The microscopic morphology of the tumor is everywhere the same and is distinctive. There are thick masses and strands of rather small rounded cells many of which show mitoses, separated by trabeculae of connective tissue. Scattered through the tumor cells at irregular intervals are many rosettes which closely resemble those described as being found in the retinal gliomata. These are small circular holes surrounded by a sharply outlined membrane which is red with the Mallory stain. Passing from the membrane between the surrounding cells like the rays of a star are many fine fibrils which in some instances pass over the membrane and are seen in the lumen of the rosette. These are also red with a Mallory stain. The fact that these fibers stain red with the Mallory stain of course does not *prove* them to be akin to neuroglia since Mallory has shown that not only neuroglia, but also fibroglia, myoglia and fibrin stain red as well.

The close resemblance between this tumor and some of those described as arising from the Gasserian ganglion must also now be apparent. Both are malignant, metastasizing at a distance and in their microscopic appearance they have many points in common. It is of course possible that this tumor like Marchand's may have arisen from neurocytes because ganglion cells have been found in the course of some of the peripheral nerves[24, 25]. But this is an exceedingly rare occurrence and it is much easier to believe that it arose from neurilemma cells which are constantly present in all efferent peripheral nerves. It is also possible that Marchand may have been nearer the truth in his discarded hypothesis that this tumor arose from the cells of the sheath of Schwann.

In conclusion it may be said that the tumor under consideration is a malignant neoplasm. That grossly it resembles the sarcomata and microscopically and tinctorially it has some points of resemblance to the retinal gliomata and to some of the Gasserian ganglion tumors. Since the neurilemma of the peripheral cells is probably homologous to the neuroglia of the central nervous system it is suggested that this tumor may be a neoplasm arising from neurilemma cells or lemmocytes.

CASE HISTORY

J. T. 42 years. Male. Italian. Laborer. Married. History No. 36592.

Admitted to the Presbyterian Hospital November 15th, 1917.

Chief Complaint: Lump in right arm.

Present History: Nine months ago first noticed a numbness of the anterior surface of the little finger. Soon after appeared a swelling of the anterior surface of the forearm which was hard and not tender. One and one-half months later a lump appeared in the right axilla which was at times very painful. Two months before admission, a cut was made into the mass in the forearm. After this the masses in the forearm and axilla increased rapidly in size and the pain grew very great.

Past and Family History: Neisser infection, twenty-two years ago. Wife had seven miscarriages. Otherwise negative.

Physical Examination: On the volar surface of the right forearm there is a mass which extends from just below the bend of the elbow to just above the wrist. At the lower end it is raised above the skin about three-fourths of an inch and its surface is ulcerated. The mass is firm, slightly tender, nodular and seems to be attached to the muscle but not to the bone as it moves freely from side to side. The intrinsic hand muscles show considerable atrophy. In the axilla is a mass three by four inches with irregular surface, not tender and freely movable from side to side. Above the clavicle can be felt some three or four small masses from .5 to 1.5 cm. in diameter. In the epitrochlear region can be felt some other nodes. Sensation over the ulnar distribution is diminished on the right side.

The lungs show bronchovesicular breathing symmetrically over both chests. No rales. Physical signs otherwise negative. Wassermann reaction negative.

Operation: November 20th, 1917 by Dr. A. V. S. Lambert. Interscapulothoracic amputation of right upper extremity.

Post Operative Course: The wound healed promptly and the patient was discharged December 7th, 1917—seventeen days post operation at which time there was felt an indefinite mass in the neck apparently above the nerve stumps of the brachial plexus. This was thought to be a recurrence.

Gross Specimen: Surgical Pathological Number 20,464. Specimen consists of a right arm including the shoulder joint, scapula and half of the clavicle. Presenting on the internal anterior aspect of the forearm is a large nodular swelling adherent to the skin on the highest point of which is a recent operative wound surrounded by an area of ulceration. On dissecting the forearm it is seen that this mass is part of a fusiform, nodular, firm, white tumor mass which starts apparently within the sheath of the ulnar nerve just below the internal epicondyle of the humerus, grows gradually thicker until it is 6½ cm. in diameter at the junction of the lower and middle thirds of the forearm then rapidly diminishes in diameter until it ends as it began within the sheath of the ulnar nerve just below the annular ligament of the hand. It does not come into contact with bone at any point, but lies in front of and internal to the radius, ulna and interosseous ligament. In the axilla extending from the subclavian artery downward for a distance of 15 cm. along the lateral thoracic wall is a firm white nodular mass adherent to the surrounding structure and measuring 5 cm. at its thickest points. All the great vessels and nerves of the axilla and many of the intercostal nerves and vessels and the long thoracic nerve pass through it. The long thoracic nerve after it leaves the mass and splits to pass into the muscle has a nodule apparently of tumor tissue about 1 cm. in diameter, either attached to or incorporated within the nerve sheath. In close proximity to the large mass are a number of small nodules from 1 to 2 cm. in diameter, some of which are superficial to it, others deep and buried in the substance of the subscapularis muscle, while still others are found above it both in the axillary fat and in the supraclavicular fossa.

MICROSCOPIC EXAMINATION: Sections from the mass in the ulnar nerve and the axillary mass show the following architecture. (Fig. II, Fig. III.) The tumor cells are small, rounded and of relatively uniform size; the nucleus is relatively large and takes a deep stain with hematoxylin. There are numerous mitotic figures. The cells are massed with an alveolar structure separated by thick trabeculae of connective tissue bearing the blood vessels. Among the tumor cells are many small rounded spaces, some empty and others apparently filled with delicate tangled fibrils. With Mallory's aniline blau-orange G stain, these holes are sharply outlined by a deep red staining membrane from which numerous fine fibrils pass out in a radiating manner like the rays of a star between the surrounding tumor cells; some of these at least seem to pass inwards into the lumen. With van Gieson's nerve stain, these fibrils are not nearly as sharply defined. They have a tint which is almost like the red of the collagen fibrils but with a suggestion of orange in it. The tumor cells surround and are separated from the membrane by a space about the width of the nucleus which is filled up with these fibrils. A section taken from the tumor at a point just below the bend of the elbow where it measures only 1.5. cm. in thickness shows about the periphery of a mass of tumor cells some bundles of nerve fibers. The neurilemma nuclei appear unusually prominent, and within one fasiculus there is seen a strand of tumor tissue in intimate relationship with the nerve fibers. Another fasiculus appears flattened out and compressed.

FINAL NOTE: Four weeks after leaving the Hospital, some small nodules developed in the scar. One week later the patient complained of epigastric pain. The nodules rapidly increased in size and number and it was decided to make an attempt to excise the region of the amputation cicatrix.

On January 24, 1918, two months after the first operation, the skin surrounding the cicatrix with its nodules was excised in a single flap, 22.5 x 18 cm. When this was removed so that the ribs and intercostal muscles were exposed, it was found that tumor nodules adherent to the periosteum of the ribs had been left behind. These were also removed and autogenous skin grafts used to cover the denuded area.

GROSS EXAMINATION: (Surgical Pathological Number 20,727.) The specimen consists of an oval segment of skin and subcutaneous tissue, 22½ x 18 cm. on the skin surface and ½ cm. in thickness. It presents the nipple slightly to one side of the centre and a curved cicatrix, 18 cm. long. About this cicatrix and for a distance of 4½ cm. on either side of it are many individual nodules averaging from ½ to ¾ cm. in diameter infiltrating the skin. They are too close together to render actual counting possible but at least seventy-eight individual ones were distinguished. On the deep surface of the specimen which is covered largely with muscle and fat are many more similar nodules of which some fifteen are easily distinguished; some of these have been divided in removing the specimen. In addition to the main specimen there are a number of other metastatic nodules with muscle, fascia and periosteum from the rib attached to them which has been excised after the main mass had been removed. The tumor tissue resembles that of the original tumor, that is, it is rather soft and homogeneous and the individual nodules are sharply circumscribed.

Microscopic Examination: Section of one of the nodules shows exactly the same picture seen in the original growth. The rosettes and the shape and size of the cells are the same. At irregular intervals through the nodule there are slender bands of fibrous tissue and degenerated striated muscle. The nodule is not circumscribed for the tumor cells invade the surrounding connective tissue.

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DEATH ANALYSIS

BEING A RECORD OF DEATHS
OCCURRING ON THE

SURGICAL DIVISION

OF THE

PRESBYTERIAN HOSPITAL
NEW YORK

From January 1st to December 31st—1917

FORBES HAWKES, M. D.

CONTENTS OF ARTICLE.

Foreword:

- Death Analysis Resumé.

Causes of Death in each of the 116 cases.

Resumé of the immediate causes of death:

- Sepsis
- Operative shock
- Hemorrhage
- Compression of brain, etc.
- Embolism
- Post operative Pneumonia.
- Pulmonary edema
- Intestinal obstruction
- Peritonitis
- Nephritis
- Myocarditis
- Post operative hyperthyroidism
- Tetanus
- Cerebral thrombosis
- Edema of the glottis
- Status lymphaticus
- Chronic colitis
- Exhaustion
- Inanition
- Obstructive jaundice
- Diabetes
- Pneumonia, Empyema, Abscess of lung
- Burns

Regional classification of the above together with that of concomitant pathological conditions.

- Bacteriology.

Operations performed in the 116 cases.

Histories of the 116 cases.

ANALYSIS OF DEATHS IN SURGICAL DIVISION

It is but natural that operators should report their successes, especially when some obstinate or hitherto unconquerable disease has been cured or arrested. Detailed reports of such operations are of great value to the surgical world.

Post-operative deaths, however, are seldom reported in detail; when reported they are often to be found only in a small statistical column and the death history is absent or meagre; there is seldom a frank statement by the operator of his ante-operative diagnosis, of the pathology and of the extent of the lesion; less often still is there a critical consideration of the propriety in that particular instance of the operation performed.

The symptoms preceding the death of the patient are rarely analyzed with sufficient care and the results of the laboratory findings are seldom given; unless an autopsy has been performed and recorded by a competent pathologist but little of positive value can be found in such a report.

In order to secure a valuable record of the deaths occurring on the Surgical Division of the hospital, the following method is in use. At the weekly meeting of the staff the list of deaths that have occurred during the preceding week is read and the operator gives a resumè of the important facts concerning them. The form of report used in this "Death Analysis" is the following:

DEATH ANALYSIS.

Name...............Age......m. f.........Occupation..........Hist. No........
Resumé of history before admission to Hospital..................................
Resumé of physical signs on admission...
Blood count ....
Urinary function ....
Serology ....
Diagnosis { Tentative
Diagnosis { Positive ....
Special consultants seen before operation...
Patient considered "excellent," "good," "fair," "poor," "bad," risk.................
Reason for operating...

Time elapsed between admission to Hospital and operation..........hrs......min.

Condition of patient on reaching operating room..............................

Anesthetic used..............................Time under anesthesia............

....Operation ....

Method of approach to lesion (only if this has any distinct bearing on subsequent events) ....

Resumé of operative findings...

Resumé of operation..

Drainage used ....deep...................superficial.............

Time consumed in operative procedures.................hrs................min.

Medication during operation..

Condition at close of operation..

Resumé of pathological report of specimens removed at operation...............

Resumé of cultures made at operation...

Resumé of post-operative behavior................Complications.................

Renal ....Vesical ....Circulatory ....

Pulmonary ....Intestinal.............Nervous system..............

Resumé of behavior of wound..

Resumé of cultures from wound..

Resumé of blood cultures...

Resumé of blood counts...

Patient apparently died of.............(opinion held previous to report on autopsy findings) Autopsy ....

Resumé of autopsy findings...

Operator's comment on his operative technique in the case......................

Operator's comment on technique of assistants................................

Other data of interest in this connection....................................

Operator's suggestion as to possible improvements in methods for treatment of similar cases ....

Of special interest in each case are the operator's comments on his pre-operative diagnosis and on his operative technique. These are of much greater value when made a few days only after the patient's death than when left for several months or a year, when important details may be forgotten.

Suggestions by the operator as to possible improvements in methods for treatment of similar cases complete such a report and should be of value.

Compiler's note:

It is intended that these "Death Analysis" reports should be published yearly. It is hoped that they will prove of value to those surgeons who are collecting certain groups of cases for intensive study. For this reason the compiler has also grouped them not only according to fairly well defined regional subjects or systems but also according to the pathological conditions present. As the reports appear from year to year a complete back index will appear with each for ready reference. A reference number has been given to each case.

The immediate cause of death in each instance has been given and both the primary and associated pathological conditions have been recorded. A list of the operations performed on these 116 cases is given with a record of the autopsies that were made. (30) It was decided not to publish the names of the operators in these cases. This probably tends toward a greater frankness of expression on their part concerning any errors that may have been committed and enhances the value of the suggestions made by them as to a better handling of similar cases.

IMMEDIATE CAUSE OF DEATH.

Sepsis. (Septicemia, toxemia, pyemia.) Cases Nos. 5, 7, 8, 9, 11, 20, 22, 23, 24, 25, 26, 27, 31, 33, 36, 40, 42, 46, 47, 49, 52, 57, 58, 61, 63, 64, 66, 67, 70, 71, 72, 75, 81, 82, 85, 87, 89, 91, 92, 94, 100, 101, 103, 104, 109, 110, 113, 115, 116

Peritonitis. Nos. 8, 9, 11, 27, 36, 46, 49, 57, 61, 63, 66, 70, 81, 85, 87, 88, 92, 104, 109, 115

Pneumonia. Nos. 8, 22, 23, 33, 40, 42, 52, 57, 67, 82, 101, 116

Appendicitis. Nos. 36, 46, 66, 81, 92

Diabetes. Nos. 23, 58, 75, 91, 94

Gangrene of Extremities. Nos. 26, 75, 91, 94, 113

Neurological Conditions. Nos. 5, 71, 103, 110

Septic Arthritis of Knee Joint. Nos. 31, 47, 64

Mastoid. Nos. 33, 52, 101

Female Pelvic Organs (Gynecology). Nos. 61, 85, 88

Hernia. No. 104

Carbuncles. No. 58.

Suspected Rabies. No. 24.

Abscesses. Nos. 8, 20, 24, 25, 26, 31, 42, 47, 57, 58, 64, 72, 94, 100, 101

A number of these cases suffered from operative shock as well.

Operative Shock.

See under Carcinoma of Intestine. Nos. 62, 73, 84
See under Hernia. Nos. 56, 104
See under Abscess of Lung. Nos. 79, 96
See under Carcinoma of Uterus. No. 83
See under Carcinoma of Neck. No. 97
See under Carcinoma of Stomach. No. 59
See under Perforated Duodenal Ulcer. No. 99
See under Traumatic Rupture of Jejunum. No. 109
See under Cyst of Thyroid. No. 108
See under Suppurative Peritonitis from Acute Gangrenous Appendicitis. No. 92
See under Typhoid Pyonephrosis. No. 51
(Some of these had "Septicemia" as well.)

Hemorrhage. (No operation.) Nos. 4, 43, 60
(Ante-operative hemorrhage.) Nos. 35, 38, 65
(Hemorrhage during or after operation.) Nos. 13, 18, 19, 37, 73, 114
(Hemorrhage of brain.) Nos. 4, 18, 19, 35, 38, 43, 60, 65
(Intraperitoneal.) Nos. 13, 37
(Intestinal.) No. 73
(From neck, secondary.) No. 114

Compression of Brain (Edema, etc.) Nos. 3, 4, 15, 28, 54, 76, 77, 78, 112

Edema of Medulla. No. 12

Embolism (suspected) (Peritonsillar Abscess) (no autopsy). No. 1

(Suspected) (Burns) (no autopsy). No. 2
(Suspected) (Pneumonia) (no autopsy). No. 34
(Proved). None.

Post-Operative Pneumonia.
(Cholelithiasis.) Nos. 21, 34, 57, 106
(Carcinoma of Esophagus.) No. 58
(Carcinoma of Intestine.) No. 10
(Carcinoma of Cystic Duct.) No. 80
(Carcinoma of Breast.) No. 45
(Diabetes.) No. 23
(Crush of Spinal Cord.) No. 103

Pulmonary Edema. (Old Cerebral hemorrhage.) No. 35
(Suspected Brain Tumor.) No. 95

Intestinal Obstruction.
Mechanical ileus—
(Carcinoma Obstructing Lumen of Gut; previous Percy operation on uterus.) No. 89
(Bands from Appendicitis.) Nos. 63, 87
(Hernia.) Nos. 56, 104
Septic ileus (see also under Peritonitis and Septicemia). Nos. 9, 11, 27, 36, 46, 49, 61, 63, 66, 70, 81, 85, 88, 92, 109, 115, 87

Peritonitis (see also under Intestinal Obstruction and under Septicemia).
(Where the Peritonitis developed after a clean operation, i. e., Uterine Ventrofixation.) No. 9
(Where the Peritonitis developed after attempt to close an Intestinal fistula.) Nos. 63, 70
(Following Acute Suppurative or Gangrenous Appendicitis.) Nos. 36, 46, 66, 81, 92
(Following Bands from an old Appendicitis.) No. 87
(Following Acute Pelvic Inflammatory Conditions.) Nos. 61, 85, 88
(Following Gangrene of Bowel in Hernia.) No. 104
(Following Perforated Duodenal Ulcer.) Nos. 27, 99
(Following Traumatic Rupture of Jejunum.) No. 109
(Following Cholecystitis.) No. 57
(Associated with other Suppurative Conditions.) No. 8
(Pneumococcus Peritonitis.) No. 11
(Tuberculous Peritonitis.) No. 14
(Etiology unknown.) Nos. 49, 115

Nephritis.
Acute Post-Operative Nephritis (Uremia).
(Hypertrophied Prostate.) No. 16
(Calculus.) No. 93
Acute Nephritis (no operation) (Calculus). No. 41
Chronic Post-Operative Nephritis (Uremia).
(Gangrene of Leg.) No. 113
(Cholelithiasis.) Nos. 57, 74

(Old Empyemia Operation.) No. 39
(Old Chronic Nephritis, Renal Decapsulation.) No. 44
Chronic Nephritis (no operation) (multiple surgical injuries). No. 48
Myocarditis. No. 68.
Post-Operative Hyperthyroidism. No. 102
Tetanus (Post-Operative). No. 50
Cerebral Thrombosis. No. 6
Edema of Glottis. No. 1
Status Lymphaticus. Nos. 17, 86
Chronic Colitis. (Hypertrophy of Prostate. No. 69
Exhaustion. (Carcinomatosis) (Carcinoma of Stomach) (Exploratory Operation with Removal of Specimen only.) No. 55
(Carcinoma of Stomach, no operation.) No. 105
(Sarcomatosis) (Retroperitoneal Sarcoma.) No. 98
(Carcinoma of Cecum and Ascending Colon.) No. 32
Inanition. (Duodeno-Colonic Fistula, following operation for Pyloric Stenosis.) No. 111
Obstructive Jaundice. (Cholelithiasis with Nephritis.) No. 74
Diabetes. (Cholelithiasis with Fatty Replacement of Pancreas.) No. 90
Pneumonia Empyema, Abscess of Lung (see also under Post-Operative Pneumonia).
(Broncho-Pneumonia.) No. 8
(Lobar-Pneumonia.) Nos. 23, 101
(Empyema.) Nos. 22, 29, 33, 40, 42, 82, 107, 116
(Abscess of Lung.) No. 67
Burns. (Multiple.) No. 2

REGIONAL CLASSIFICATION OF PATHOLOGICAL CONDITIONS FOUND AT OPERATION OR AUTOPSY TOGETHER WITH THAT OF OTHER DIAGNOSED CONDITIONS.

HEAD—BRAIN AND SPINAL CORD

BRAIN.
Tumors or suspected Tumors of Brain. Nos. 3, 18, 28, 54, 76, 77, 78, 95, 110, 112
Diagnosis established in Nos. 18, 38, 76, 78, 110, 112
Abscess of Brain. No. 5
Hemorrhage of Brain (Traumatic. Nos. 4, 15, 38, 43, 60, 65
(Non-Traumatic.) No. 35

SPINAL CORD.
Infection. No. 71
Pressure from Fracture. No. 103
Sclerosis. No. 12

HEAD.
Skull (Fractures). Nos. 38, 65
Mastoid. (Otitis Media-Mastoiditis.) Nos. 5, 33, 52, 101
Lip. (Hare Lip—Cleft Palate.) No. 17
(Recurrent Carcinoma.) No. 114

- Pharynx. (Streptococcus Pharyngitis.) No. 82
  - (Peritonsillar Abscess.) No. 1
- Teeth. (Alveolar Abscess.) No. 23

NECK.

- Glands (Lymphatic). (Cervical Abscess, Cellulitis.) Nos. 1, 52, 72, 101
  - (Carcinoma.) No. 97
- Thyroid. (Exophthalmic.) No. 102
  - (Thyroid Tumor.) No. 86
  - (Thyroid Cyst.) No. 108
- Thymus. (Persistent Thymus.) No. 86

THORAX AND THORACIC CAVITY.

- Breast. (Carcinoma of Male Breast.) No. 45
- Lung and Pleura. (Pneumonia—Empyema—Abscess of Lung.)
  - (Pneumococcus Group I.) Nos. 40, 116
  - (Pneumococcus Group II.) Nos. 22, 29, 67
  - (Pneumococcus Group III.) Nos. 42, 107
  - (Pneumococcus Group IV.) Nos. 11, 33, 45, 101
  - (Unclassified.) Nos. 7, 39, 52, 79, 82, 96, 100, 107
  - ("Post-Operative" Pneumonia.) Nos. 10, 21, 23, 34, 45, 53, 57, 80, 103, 106
- Heart and Pericardium. (Endocarditis.) No. 29
  - (Pericarditis.) No. 100
- Mediastinum. (Mediastinal Abscess.) No. 108
- Esophagus. (Carcinoma.) No. 53
- Subphrenic. (Abscess.) Nos. 42, 57

ABDOMEN.

- Stomach. (Pyloric Stenosis.) No. 111
  - (Carcinoma.) Nos. 30, 55, 59, 105
- Intestines. (Intestinal Tumors.) Nos. 10, 32, 62, 73, 84, 89
  - (Duodenal Ulcers.) Nos. 27, 99
  - (Perforation of Jejunum.) No. 9
  - (Traumatic Rupture of Jejunum.) No. 109
  - (Gangrene of Ileum.) Nos. 70, 104
  - (Rupture of Ileum, Non-Traumatic.) No. 11
  - (Duodeno-Colonic Fistula.) No. 111
  - (Fecal Fistula.) Nos. 63, 70, 85
  - (Intussusception.) No. 84
  - (Intestinal Obstruction, Mechanical.) Nos. 56, 63, 87, 89, 104
  - (Intestinal Obstruction, Septic.) Nos. 9, 11, 27, 36, 46, 49, 61, 63, 66, 70, 81, 85, 87, 88, 92, 109, 115
  - (Diverticulitis.) No. 87
  - (Chronic Colitis.) No. 69
- Mesenteric Gland. (Tuberculosis.) No. 51
- Appendix. (Acute Appendicitis.) Nos. 36, 46, 66, 81, 92
  - (Chronic Appendicitis.) Nos. 21, 50
  - (Intestinal Obstruction by Bands.) No. 64
  - (Tuberculous Appendicitis.) No. 14

Pancreas. (Carcinoma.) Nos. 37, 90, 94
    (See also under Diabetes.)
Liver. (Carcinoma.) No. 105
    (Abscess.) No. 106
    (Brown Atrophy.) No. 32
    (Fibrosis.) No. 13
(Cirrhosis.) No. 11, 18, 19
    (Cystic Disease.) No. 11
    (Carcinoma of Cystic Duct.) No. 80
    (Cholelithiasis.) Nos. 11, 13, 21, 34, 57, 74, 90, 106
Peritoneum.
    Peritonitis. (Pneumococcus.) No. 11
        (Tuberculosis.) No. 14
        (Etiology Unknown.) Nos. 49, 115
        See also under Liver, Stomach, Intestines, Appendix, Female Pelvic Organs, Hernia, Abscesses (Subphrenic), Septicemia.
Retroperitoneal Space. (Sarcoma.) No. 98
Hernia. (Strangulated Femoral.) No. 56
    (Rupture of Ileum.) No. 104

GENITO-URINARY ORGANS.
Kidney. (Calculus.) Nos. 41, 93
    (Abscess.) Nos. 41, 51, 94
    (Acute Nephritis.) Nos. 16, 41, 93
    (Chronic Nephritis.) Nos. 39, 44, 48
Ureter. (Ureteritis.) No. 41
Bladder. (Prostate.) Nos. 6, 14, 16, 68, 69
    (Cystitis.) Nos. 6, 41, 68, 69, 94, 98
Calculus Cases. (Renal.) Nos. 41, 93
    (Cystic.) No. 68

FEMALE PELVIC ORGANS.
Uterus. Prolapse. No. 88
    Retroflexion. No. 50
    Carcinoma. Nos. 83, 89
    Fibroids. No. 108
    Pregnancy. No. 28
Ovaries. Cystic. No. 50
    Cyst of. No. 85
Fallopian Tubes. Pyosalpinx. Nos. 61, 88

UPPER EXTREMITIES.
Radius (see under Fracture). No. 48

LOWER EXTREMITIES.
Fracture.
Tibia. No. 64
    Gangrene. Nos. 26, 75, 91, 94, 113
Knee. (Septic Arthritis of.) Nos. 31, 47, 64

FRACTURES.

(Skull). Nos. 38, 65

(Radius.) No. 48

(Tibia.) No. 64

TUMORS.

Benign. (Adenoma.) No. 86

Malignant. Nos. 10, 30, 32, 37, 45, 53, 55, 59, 62, 73, 80, 83, 84, 89, 97, 98, 105, 114

BULLET WOUNDS. (Spine.) No. 71

SYPHILIS. Nos. 18, 24

TYPHOID INFECTION. (Pyonephrosis.) No. 51

PARATYPHOID INFECTION. (Appendicitis.) No. 81

BURNS. (Head and Extremities.) No. 2

CARBUNCLES. Nos. 58, 90

ERYSIPELAS. (Face.) No. 101

SUSPECTED RABIES. (Septicemia.) (See under.) No. 24

TETANUS. (Post-Operative.) No. 50

DIABETES. Nos. 23, 58, 75, 90, 91, 94

(See also under "Pancreas.")

THROMBOANGEITIS OBLITERANS. No. 25

LYMPHATIC LEUKEMIA. (Chronic.) No. 101

STATUS LYMPHATICUS. (Cleft Palate.) No. 17

(Thyroid Tumor.) No. 86

TUBERCULOSIS. (Peritoneum.) No. 14

(Appendix.) No. 14

(Prostate.) No. 14

(Pulmonary.) Nos. 46, 51, 71

(Mesenteric Glands.) No. 51

BACTERIOLOGY.

Colon Bac. Nos. 16, 87, 92

Hemolytic Streptococcus. Nos. 8, 24, 27, 31, 47, 49, 57, 61, 64, 72, 75, 101, 106, 108, 109, 115

Non-Hemolytic Streptococcus. Nos. 5, 82, 96

Streptococcus. No. 79

Streptococcus Viridans. Nos. 9, 22, 27, 36.

Anäerobic Streptococcus. No. 7

Staphylococcus. (Albus.) Nos. 9, 20, 36

(Aureus.) Nos. 9, 20, 58, 71, 90, 103

(Citreus.) No. 25

(Undetermined.) Nos. 100, 110

Pneumococcus. Nos. 11, 22, 29, 33, 40, 42, 45, 67, 101, 107, 116

T. B. No. 14 et al.

Tetanus. No. 50
B. Welchii. No. 9
B. Mucosus Capsulatus. Nos. 9, 98
Rabies. No. 24
Typhoid B. No. 51
Paratyphoid B. No. 81
B. Influenzae. No. 11
B. Aerogenes Capsulatus. No. 26
Miscellaneous. Nos. 66, 92, 101, 106
Streptothrix. No. 87.

OPERATIONS PERFORMED.

Case No.

1. Incisions of cervical and peritonsillar abscesses.
2. No operation.
3. Exploratory craniotomy.
4. No operation.
5. Craniotomy. Drainage of abscess.
6. Suprapubic cystostomy for chronic cystitis.
7. Intercostal thoracotomy.
8. Multiple incisions for abscesses.
9. Ventral suspension of uterus. Colpo-perineoplasty.
10. Intestinal anastomosis for carcinoma of the ascending colon.
11. Abdominal tapping. Drainage.
12. For exposure of cord. Operation not completed.
13. Exploratory laparotomy.
14. Exploratory laparotomy. Appendicectomy.
15. Exploratory craniotomy.
16. Prostatectomy. (Two operations.)
17. Plastic operation on palate and lip.
18. Exploratory craniotomy.
19. Omentopexy for cirrhosis of liver.
20. Multiple incisions for abscesses.
21. Cholecystectomy. Appendicectomy.
22. Thoracotomy.
23. Incision of Abscess. (Alveolar.)
24. Incision of Abscess. (Anterior abdominal wall.)
25. Incision of abscess of thigh.
26. Amputation of thigh.
27. Cauterization and infolding of gastric ulcer.
28. Exploratory craniotomy.
29. Thoracotomy.
30. Exploratory laparotomy.
31. Aspiration and irrigation of knee joint.
32. Resection of ascending colon. Anastomosis.
33. Thoracotomy.

34. Cholecystostomy. Removal of calculus.
35. Exploratory craniotomy.
36. Resection of ileum and part of cecum with appendix. Enterostomy.
37. Cholecysto-duodenostomy.
38. Craniotomy. (Double.)
39. For decortication of lung. (Incomplete.)
40. Thoracotomy.
41. No operation.
42. Thoracotomy. Incision of subphrenic abscess.
43. No operation.
44. Unilateral renal decapsulation.
45. "Radical" operation on breast and axilla.
46. Appendicectomy.
47. Aspiration and irrigation of knee joint.
48. No operation.
49. Exploratory laparotomy.
50. Appendicectomy. Partial oophorectomy. Uterine ventrosuspension.
51. Nephrotomy.
52. Incision of cervical abscess.
53. Gastrostomy.
54. Exploratory craniotomy.
55. Exploratory laparotomy. Removal of omental gland.
56. Intestinal resection.
57. Cholecystectomy. Choledochotomy. Incision of subphrenic abscess. Incision of inflammatory mass in peritoneal cavity.
58. Incision of multiple abscesses.
59. Partial gastrectomy. Gastrojejunostomy.
60. No operation.
61. Salpingo-oophorectomy. Revision of wound.
62. Intestinal resection. Anastomosis.
63. Closure of fecal fistula.
64. Amputation of thigh.
65. Exploratory craniotomy. Ligation of vessels.
66. Appendicectomy.
67. Thoracotomy.
68. Suprapubic prostatectomy. Removal of calculus.
69. Suprapubic cystotomy.
70. Resection of gangrenous ileum. Excision of intestinal fistula. Intestinal anastomosis.
71. Removal of bullet from spinal column.
72. No operation.
73. Resection of rectum. Transfusion of blood.
74. Cholecystectomy. Common duct drainage.
75. Amputation through middle of thigh.
76. Exploratory craniotomy.
77. Exploratory craniotomy.
78. Transsphenoidal decompression.

79. Incision of abscess of lung.
80. Cholecystostomy. Drainage.
81. Appendicectomy.
82. Thoracotomy. Drainage.
83. Abdominal hysterectomy. Salpingectomy. Oophorectomy.
84. Partial resection of ileum and ascending colon. Ileo-sigmoidostomy.
85. Oophorectomy.
86. Thyroidectomy. (Operation not completed.)
87. Colostomy.
88. Supravaginal hysterectomy. Salpingectomy.
89. No operation.
90. Incision of carbuncles.
91. Removal of big toe. Multiple incisions for cellulitis.
92. Appendicectomy.
93. Nephrotomy. Removal of calculus.
94. Amputation of toes. Later amputation in upper third of leg.
95. No operation.
96. Aspiration of chest.
97. Removal of carcinomatous glands of neck.
98. Removal of retroperitoneal tumor at base of bladder.
99. Suture of perforated ulcer of the duodenum.
100. Incisions of abscesses.
101. Incisions of abscesses.
102. Partial thyroidectomy.
103. Exposure of compressed spinal cord.
104. Herniotomy. Insertion of Paul tube.
105. No operation.
106. Cholecystectomy. Choledochotomy.
107. Thoracotomy. Drainage.
108. Partial thyroidectomy.
109. Suture of ruptured jejunum.
110. Exploratory craniotomy.
111. Gastro-duodenostomy.
112. Exploratory craniotomy.
113. Amputation of leg.
114. Plastic operation on lower lip. Cervical adenectomy.
115. Appendicectomy.
116. Thoracotomy. Later phlebotomy.

CASE No. 1. Female, 74 years. Came to the Hospital with a large submaxillary and cervical abscess of one week's duration. She also presented signs of myxoedema. The origin of the abscess was not evident. The abscess was widely incised and the patient did nicely for three days. She then developed a peritonsillar abscess which caused a mechanical obstruction to her breathing. This abscess was evacuated. A few hours later she suddenly died. No autopsy. Embolism was considered the most probable cause of death. A sudden edema of the glottis may have occurred.

Case No. 2. Female, 76 years. Her apron caught on fire from the stove. She came in with deep burns of the head and upper extremities. Treatment by dry heat was used. She was doing very nicely until the eighth day when she suddenly became cyanosed with an imperceptible pulse and died within an hour. No autopsy. Embolism was thought to have occurred.

Case No. 3. Male, 36 years. Factory superintendent. This patient entered the Hospital with a ten month's history of dizziness which had come on during an attack of grippe. There had been occasional nausea and vomiting with the dizziness. He also gave an old history of multiple tuberculous lesions. On examination he was found to have vertigo, both subjective and objective, vertical nystagmus and a double "Barany." He vomited when the position of his head was suddenly changed. His eye grounds were normal. Serology was negative. A diagnosis of tuberculosis of the superior vermis was made. A craniotomy was performed and the vermis exposed but no tumor was found. Following the operation the vomiting ceased but his condition grew steadily worse and he died on the seventh day without regaining a rational state. No autopsy.

Case No. 4. Female, 54 years, married, housewife. She gave a history of symptoms of brain irritation coming on ten days after a severe injury to the head. She presented a left hemiplegia and asphasia. She was in a semi-comatose condition with involuntary urine and feces. There was a pronounced ankle clonus and Babinski on the left side. Spinal puncture showed a slightly blood-stained fluid with ten white blood cells. Culture: sterile. Ophthalmoscopic examination: negative. The *x*-ray of the skull was negative. Tentative diagnosis: laceration of brain. She remained in the same condition for about ten days except for some twitching of the right arm. Her temperature was about 100 F., her pulse rate about 90. As she progressed a diagnosis of hemorrhage was considered most probable, but she was not in a condition for exploratory operation. She died on the tenth day after admission. Autopsy revealed a ventricular hemorrhage and a subdural hemorrhage of the right lobe of the cerebellum; no signs of inflammation.

Case No. 5. Male, 35 years, ironworker. This patient gave a history of suppurative otitis media dating back several years, with recurring attacks laying him up for several days at a time. In these attacks he had pain in the left ear and a purulent discharge from it. In the present attack, which had begun eight days before, he had pain and discharge, and his speech was incoherent. He vomited once. On admission to the Hospital he was stuporous but later presented periods of comparative alertness. His speech was confused. There was a right facial paralysis and a discharging left ear. He had a stiff neck and a Kernig sign. He dragged his right foot on walking. Spinal puncture: fluid under slight pressure—10 c.c. moderately turbid. Cells: 532. Poly. 80%. Smear revealed no organisms. Culture: sterile. Blood count: W. B. C. 15,400. Poly: 74%. Blood culture: no growth. Temperature 100.5 F. Pulse: 76.

A diagnosis was made of left temporo-sphenoidal lobe abscess with complicating meningitis. At operation an abscess was found and opened in the left superior and middle temporo-sphenoidal lobes. Rubber tube drainage was used. His post-operative course for the first two days was fair but he then became progressively worse with signs of meningitis and died in coma on the third day after operation. At autopy an extension of the abscess was found in the temporo sphenoidal lobe for about 5 cm. with extreme edema of the brain substance in the neighborhood. There was a chronic otitis media and an acute mastoiditis. Cultures from the abscess taken at operation showed a non-hemolytic streptococcus.

CASE No. 6. Male, 81 years. Patient came to the Hospital with an hypertrophied prostate and a marked chronic cystitis. He had also an advanced arteriosclerosis. His condition precluded a radical operation. Suprapubic drainage of the bladder was instituted under local anaesthesia. He developed slowly a left hemoplegia on the sixth day after his operation. He died on the thirty-fourth day. It was thought that he had a cerebral thrombosis. No autopsy.

CASE No. 7. Male, 70 years. Used to work in auto factory. This patient had suffered from chronic bronchitis, pulmonary emphysema and general arteriosclerosis for several years. He had suffered from a stroke ten years before. An ischio-rectal abscess and fistula had occurred within the last year. He came in with a persistent croupy cough and with signs of fluid at the base of the right lung. His Wassermann was negative. Aspiration resulted in the withdrawal of a few c.c. of clear fluid. Cultures of this showed no growth. Two days later another aspiration brought out similar fluid. The aerobic cultures were sterile; the anaerobic showed the presence of streptococci only. The *x*-ray plates were showing a gradual increase in the amount of fluid. Aspiration a few days later brought out some foul smelling whitish pus which also showed streptococci. The patient was in such bad condition that an intercostal thoractomy only under local anaesthesia was done with tube drainage. The pus drained profusely. For the first few days there was improvement and considerable relief from the chest symptoms but the *x*-ray plates taken at that time showed a shadow area about two inches in diameter which was considered to be either a patch of consolidation or an abscess. His heart gave out rapidly. No autopsy. It was thought that he died of his toxemia and associated endocarditis.

CASE No. 8. Female, 28 years, maid. She entered the Hospital with a nine days' history of headache and fever. Three days before admission she had pain and stiffness in the right thigh and the day before admission she had swelling and tenderness of the back of the left hand. On the day of admission her blood count was 30,000. Poly: 83%. Cultures from the secretions of the nose showed a hemolytic streptococcus. Blood cultures showed the same organism. The consulting rhinologist thought that there was no involvement of the antrum or frontal sinus. Her Wassermann was negative and so was her Widal. She had a marked pyorrhoea. The abscess on the hand was opened and a hemolytic streptococcus recovered from the pus. After that and during the six weeks that the patient lived she developed eleven other abscesses which were drained as soon as they appeared, the same organisms being recovered in each case. The later blood cultures, however, were all sterile. The temperature ran from 102-106 F. throughout most of the course. She was treated with fresh air, forced feedings, infusions, etc. She died of her toxaemia about five and a half weeks after admission. Autopsy showed in addition to the abscesses above mentioned a broncho-pneumonia and a localized peritonitis in the lower part of the pelvis, a few c.c. of cloudy fluid being found in Douglass cul de sac, without any disease of the adnexa.

Case No. 9. Female, 45 years, cook. This patient came to the Hospital for an operation for uterine prolapse. A ventral suspension was done with an anterior colporrhaphy and a perineorrhaphy. On the day after her operation her pulse rate suddenly rose to 160 and she developed a purulent peritonitis from which she died two days later. At autopsy a purulent pelvic peritonitis was found and in one of the loops of the jejunum was a perforation of the size of a pin head. The cultures of the pus showed: (a) Streptococcus viridans; (b) Staphlyococcus aureus; (c) B. Welchii; (d) B. of mucosus capsulatus group. Such a perforation might have resulted from the grasping of the bowel loop by the tooth of a sharp instrument.

Case No. 10. Male 56 years. No occupation. This patient came in to the Hospital with a six months' history of abdominal cramps and a sense of a lump in the region of the umbilicus. At times the feces had been black. There had been no nausea or vomiting but marked constipation and anorexia, with loss of flesh and strength and the development of pallor. He presented a hard immovable mass in the region of the ascending colon. There was a moderate nephritis. At operation an extensive carcinoma of the ascending colon was found and an end to side anastomosis was done as a palliative measure. He developed a lobar pneumonia and died of pulmonary edema on the fifth day. The stoma had functionated perfectly. No autopsy.

Case No. 11. Female, 39 years, no occupation. This patient entered the Hospital with a history of ascites for over four years. She had been tapped very often; as many as thirty-seven times in one year. She had a large decompensating heart and a swelling of the abdomen which felt cystic. On account of her cardiac condition no operative procedure seemed justifiable and she left the Hospital somewhat improved. After reaching home she did a moderate amount of work for about four months when she noticed that her abdomen had become distinctly more swollen and that she was suffering from shortness of breath and from cough. These continued and became progressively worse until her readmission four and one-half months later. Her physical signs then suggested a large liver with ascites with a possiblity of right lower lobe pneumonia. Her abdomen was tapped and 1,750 c.c. of bile stained fluid removed by trocar. A catheter was left in down to the pelvis for continuous drainage. The cultures of the fluid showed pneumococcus (group 4) and influenza bacilli. She was greatly relieved by the tapping. Five days later a small ventral hernia which had existed for some time as the result of her many tappings burst externally. In order to prevent the infection of the general peritoneal cavity along the catheter tract attempt was made to close the fecal opening. Her condition was such, however, that operation had to be discontinued before this could be effected and a large catheter was introduced into the bowel for better drainage. She died about sixteen hours later. Autopsy showed an acute diffuse peritonitis with a perforation of the ileum. In the pelvis was a peritoneal abscess. There was also a chronic peritonitis with peritoneal adhesions.

The heart showed mitral, aortic and tricuspid disease with cardiac hypertrophy, and there was chronic cardiac dilatation. She also had a cirrhosis of the liver with cystic disease and cholelithiasis, the calculi being in the gall bladder. There was an acute congestion of the lungs with a thrombosis of the pulmonary vessels. It would seem that the pneumococcus peritonitis from which she died had in some way been grafted on to a peritoneum whose resistance had been markedly weakened by the hepatic cirrhosis.

Case No. 12. Female, 25 years, single, teacher. This patient came to the Hospital complaining of progressive loss of power in the left leg, some nausea every morning, and constipation. She presented equilibratory and non-equilibratory ataxia; double Babinski; double ankle clonus. She had slight nystagmus. There was an hyperaesthetic zone about the level of the mamillary line. Serology normal. A diagnosis was made of cord lesion—probably tumor—possibly multiple sclerosis. During the operation the patient stopped breathing before the cord was opened. A portion of the cord was removed later and the pathological report was "Multiple sclerosis."

Case No. 13. Female, 36 years, housewife. This patient came into the Hospital with the history of having been operated upon for gallstones eleven months previously. The stones had been removed and the wound had been drained. Bile drainage had been copious. The sinus had closed and reopened several times. When it reopened she always felt better. For four months previous to admission she had progressive jaundice and her stools were of light color. On admission a biliary fistula was found to exist and with it a large tender liver. It was thought that she had a stone in the common duct. The *x*-ray plates showed nothing suggesting a calculus. Her Wassermann was negative. Her coagulation time was: beginning at fourteen minutes, complete at twenty-four minutes. Jaundice was marked. At the beginning of the operation a preliminary citrate blood transfusion was done on account of her coagulation time. The biliary fistula was found to lead down through liver tissue, but its deep end could not be accurately located. The common duct seemed normal and not dilated, but there was no bile in it. Above, the common duct seemed to be occluded by a very tight stricture in the hepatic duct in the liver substance. Surrounding this strictured area was a great amount of scar tissue. At this stage of the operation further proceedings were judged inadvisable and a drainage tube was placed to the strictured area. She stood the operation poorly and oozed profusely afterwards. She died the next day. At autopsy the bile ducts were found enormously dilated above the strictured areas in the hepatic ducts; many of them were sacculated and there was much fibrous tissue present. Much of the liver tissue had disappeared in this area. She probably died partly from her intraperitoneal hemorrhage.

Case No. 14. Male, 45 years, elevator operator. He entered the Hospital with a history suggesting subacute appendicitis. The findings were atypical. He had muscular rigidity on the right side in both upper and lower quadrants and there was tenderness in both of these areas. The Wassermann and Widal tests were "negative." His blood cultures showed "no growth." The *x*-ray plates of the chest were negative also. The following diagnoses were made by members of the staff:

subacute appendicitis; cholecystitis; hepatic abscess; pancreatitis; pneumococcus peritonitis. At operation a wide spread tuberculous peritonitis was found with much fibrinous exudate and a (secondary?) tuberculosis of the appendix. The appendix was removed and the pelvis drained. A fecal fistula formed and the patient failed steadily, dying on the thirty-first day. At autopsy there were found in addition some tuberculous deposits in his prostate and a lobular pneumonia. The microscopic report of the appendix leaves the question somewhat in doubt whether the tuberculosis of the appendix was primary or secondary.

Case No. 15. Female, 45 years, waitress. She entered the Hospital with a history of having fallen down stairs seven weeks previously, injuring her wrist. She had struck her head at the same time but was not unconscious. She had fainted the next day but had regained consciousness immediately. Since then she had been in a dull and stuporous condition, but there had been no convulsions. She had complained of severe frontal and right sided vertex headaches. Her tongue deviated slightly to the left; her arm and leg were slightly weaker than the right. The left arm was distinctly spastic. There were increased reflexes in the left leg. Lumbar puncture showed slight increase of pressure only. Serology: negative. Ophthalmic examination was unsatisfactory on account of the patient's lack of attention. *X*-ray of skull: negative. During the next few days her dullness increased and the rigidity of the neck became marked. While a diagnosis of hemorrhage of the brain had been made in the early stage of her trouble, the progression suggested the possibility of brain tumor. At operation a cavity was found beneath the genu of the ascending frontal convolution containing straw-colored fluid. This was drained by a small tube. The pathological report on the fluid removed was: "Subdural hemorrhage?" The smear from the fluid aspirated at operation showed: Poly 84%, S. M. 14%, L. M. 2%. On the fourth day after operation she became unconscious and developed convulsions. The fluid from spinal puncture taken then showed 124 cells; fluid sterile. She grew progressively worse and died on the sixth day. No autopsy.

Case No. 16. Male, 67 years, a cooper. This patient had been in the Hospital nine months previously for an hypertrophied prostate. The median lobe had been removed suprapubically. The bladder wound had been slow to close and a persistent sinus remained with 500 c.c. of residual urine. For this he re-entered the Hospital and both lateral lobes were removed through the old incision. Free drainage was used. The pathological report on the prostatic tissue removed was "simple inflammation." His bladder wound suppurated for a short time but healed down again to a sinus which persisted in spite of "Sound" treatment, and there were from 300 to 400 c.c. of residual urine. Gradually increasing obstruction occurred at the neck of the bladder so that the introduction of a catheter was more and more difficult. He then (thirty-eight days after his second operation) had a sharp chill and tenderness appeared over his right kidney. The urine was found to contain B. coli com. His blood count was: white bl. cells 42,000, poly. 87%. He became delirous and died on the next day, apparently from an infection of the urinary tract. At autopsy the ureters, pelvis and kidneys were found to be dilated and there was still some obstructing prostatic tissue at the neck of the bladder.

The microscopic examination of the kidneys showed an acute interstitial nephritis. There was also a chronic myocarditis and an ante-mortem thrombus in the left ventricle. He died apparently from his acute nephritis.

Case No. 17. This boy, five months old, weighing ten pounds and two ounces, in good general condition apparently, came into the Hospital for a hare lip and cleft palate operation. At the first operation which was done under "open ether" the work on the palate was progressing satisfactorily when the patient began to look badly and all operative procedures were discontinued. Artificial respiration was used and gradually the pulse and respiration became normal again. About a week later the operation was completed, the anaesthetic being well taken. Post-operative convalescence was uneventful. The hare lip remained to be attended to and three weeks later, the patient being apparently in good condition, a plastic operation was successfully performed. The same anaesthetic was used and was well taken. The boy left the operating room in good condition and was taken back to his bed in the ward. Everything seemed to be progressing normally for four hours when he suddenly became "blue" and stopped breathing. All efforts at resuscitation failed. No autopsy. It was thought that there was probably a "status lymphaticus."

Case No. 18. Male, 37 years, armor winder. This patient entered the Hospital with the history of an initial lesion four years previously, failing vision for seven months, severe headaches for about a year, together with sharp pain in frontal running to the occipital region. His blood Wassermann had been positive (4 plus) several times, the last time just before admission. He was almost entirely blind in both eyes. There was an irregular central scotoma on both sides. The x-ray examination showed extensive bone absorption in the sella turcica, and in the anterior fossa just in front of the sella turcica and above the posterior ethmoid cells. A diagnosis was made of brain tumor. A preliminary operation was done for the exposure of the growth. It had to be discontinued before the dura was opened, on account of hemorrhage. He seemed to rally from this, but shortly afterwards died before a transfusion could be given. At autopsy there were found an endothelioma of the right frontal lobe and protrusion of the floor of the third ventricle, rarefaction of the sella turcica, syphilitic cirrhosis and gummata of the liver, syphilis and aneurysm of the aorta, etc. The reason for the erosion of the sella turcica was not plain, for there was no lesion in the neighborhood of the hypophysis. Other autopsy findings suggested status lymphaticus.

Case No. 19. Female, 12 years, school girl. She came into the Hospital with a two weeks' history of abdominal swelling and thirst. No other symptoms could be elicited. She had a small liver and apparently some free fluid in the peritoneal cavity. Her Wassermann was negative. At the operation a small cirrhotic liver was found and free ascitic fluid. An omentopexy was performed and the fluid aspirated. On the second day she began to scream at frequent intervals and passed into stupor. She died on the fourth day. Wassermann test with the ascitic and with spinal fluid were negative. At autopsy (which was limited to procedures through the surgical incision) there were found: a small liver; hemorrhages in the pleura, pericardium, diaphragm, stomach, intestines, perirenal tissue and omentum. There was also a chronic passive congestion of the spleen and fatty infiltration of the kidneys. The microscopical report on the liver tissue was "Cirrhosis—no evidence of syphilis." The pathologist's comment was: This seems to be one of the unusual cases of "idiopathic hepatic cirrhosis" in children. In view of the autopsy findings it was thought that the post-operative symptoms may have been due to intracranial hemorrhage.

CASE No. 20. Girl, 1 year old. This baby had a bronchopneumonia which was followed by double otitis media. Both drums were opened. Then followed multiple abscesses of hand, of sacral region, of epigastric region, and abscess of lung with empyema. These collections were all drained as they appeared and they all contained the same organisms; staphylococcus aureus. The blood cultures were sterile. She developed edema of the lungs and died—apparently from her septicemia.

CASE No. 21. Female, 27 years, maid. She came to the Hospital with a history of three attacks of epigastric pain and vomiting during the previous eighteen months. There had been no jaundice. The last attack had occurred three months before. The *x*-ray plates taken after her admission showed some shadows in the gall bladder region which were interpreted as "calculus material in the gall bladder." At operation a chronically inflammed gall bladder was found which contained calculi, and a chronic appendicitis. A cholecystectomy and appendicectomy were done. She developed a post-operative pneumonia and died on the fifth day. No autopsy. There had been no pneumococci in her ante-operative sputum.

CASE No. 22. Female, 30 years, housewife. This patient entered the Hospital with an atypical group II pneumonia of about eighteen days' duration. Multiple empyema pockets had formed. She was markedly septic. Guided by the *x*-ray plates these pockets were opened and others which formed were similarly treated. A streptococcus viridans was recovered from each abscess. The blood cultures made at intervals during the disease were all negative. Her septicoemia progressed. She developed edema of the lungs and died about three months after her original infection. No autopsy.

CASE No. 23. Male, 48 years, saloonkeeper. This patient was brought to the Hospital in diabetic coma. From his family it was learned that he had been suffering from his diabetes for over three years. Nine days before his admission he had a tooth extracted. An alveolar abscess was found and incised. He received active treatment for his diabetes but developed a right lower lobe pneumonia. He died on the fourth day. No autopsy.

CASE No. 24. Male, 68 years, in the piano business. This patient had been bitten by a dog which later was pronounced by the Board of Health to be rabid. He had received fifteen injections of the Pasteur treatment into the anterior abdominal wall, the last one five days previously. On the day following this last injection there was pain and redness at the site of the injection with a mouth temperature of 104 F. and acute infection followed. Four days later when he was admitted to the Hospital there was found a large gangrenous and suppurating area in the abdominal wall at the site of the last injection. This was opened and drained. A hemolytic streptococcus was recovered from the pus. His blood cultures showed the same organisms. His Wassermann was 4 plus to both antigens. He died the day after admission. No autopsy.

Case No. 25. Male, 62 years, physician. This patient came to the Hospital in a septic condition with an abscess of the left thigh of one week's duration and of unknown etiology. This abscess was immediately opened and drained. The pus from it showed a staphylococcus citreus and the same organism was recovered from his blood cultures. The *x*-ray plates of spine, hip and femur showed no bone lesion. This patient was very obese and he had some nephritis. He died of his sepsis ten days after his admission. No autopsy.

Case No. 26. Male, 68 years, broker, native of Poland. This patient came to the Hospital with a gangrene of the toe and a thrombo-angeitis obliterans of the left leg. Amputation was done in the middle third of the thigh, with rubber tube drainage of the flaps. A bacillus aerogenes capsulatus infection of the wound followed, and the same organism was recovered from the blood cultures. In spite of appropriate wound treatment he died of his bacteroemia on the second day. No autopsy.

Case No. 27. Male, 62 years, broker. This patient entered the Hospital for immediate operation for perforated ulcer of the stomach. The symptoms of perforation had begun sixteen hours previously. A perforation of a duodenal ulcer was found. The ulcer was cauterized and infolded. This seemed to cause some constriction, so a posterior gastro-enterostomy was done by suture. Paralytic ileus followed with signs of a bronchopneumonia. At autopsy it was found that there had been no leakage but the peritonitis had progressed resulting in localized collections of purulent fluid in the peritoneal cavity. The cultures showed a hemolytic streptococcus and a streptococcus viridans.

Case No. 28. Female, 40 years, married. This patient entered the Hospital with a history of convulsions for three days. She was having them at the rate of one every ten minutes or so. She was also about five months pregnant. A lesion was diagnosed in the left Rolandic fissure. Immediate craniotomy was performed but no tumor was found. She did not regain consciousness. The uterus delivered itself of two female babies in a few hours. She died about thirty-two hours after the operation. At autopsy there was found an endothelioma situated just in front of the upper end of the left Rolandic fissure.

Case No. 29. Male, 69 years, actor. This patient entered the Hospital with a left sided pneumonia of about six days' duration, followed by an empyema. His heart was markedly enlarged and was staggering under his pneumonia. On this account a thoracotomy only was done under local anaesthesia. He developed fibrillation and died three days later. His blood cultures had shown a pneumococcus of group II. No autopsy.

Case No. 30. Female, 67 years, housewife. This patient gave a gastric history extending over a period of three years before admission. A large mass could be felt in the epigastrium. Exploratory operation revealed a large carcinoma of the stomach with metastases in the glands. The pylorus was patent. The abdomen was closed. She gradually failed and died three weeks later. The autopsy report was "Adenocarcinoma of the stomach with metastases in the lungs, liver, pancreas and regional lymph glands, with hemorrhages in the pericardium."

Case No. 31. Girl, 5 months old. This baby was brought to the Hospital suffering from a suppurative arthritis of the right knee, apparently of recent development. The joint was immediately aspirated. A hemolytic streptococcus was found in the pus and her blood cultures showed the same organisms. Repeated aspirations and joint irrigations with 0.5% phenol solution were carried out. The knee condition improved but the child developed an abscess in the right thigh and died of her bacteraemia thirteen days after her admission. Autopsy showed in addition to the above a bronchopneumonia and brown atrophy of the liver.

Case No. 32. Female, 76 years. This patient had an extensive carcinoma of the cecum and ascending colon. The growth was removed and an entero-colostomy performed, side to side, by the suture method. At first she made an excellent recovery but about the seventh day showed signs of cardiac weakness which was progressive. She died on the twenty-first day. The stoma had functionated perfectly. No autopsy.

Case No. 33. Boy, 1 year old. This baby had a group IV pneumonia followed by an empyema. Thoracotomy with resection of portion of rib was done. A pneumococcus, group IV, was recovered from the pus. Drainage was profuse, and there was apparently no retention. He developed a right otitis media which relieved itself by the rupture of the drum. There was apparently no mastoid extension. He grew progressively weaker, however, and died on the sixteenth day. No autopsy.

Case No. 34. Male, 57 years, music teacher. This patient came to the Hospital with a three months' history suggestive of gallstones. At operation some calculi were found in a thin and normal looking gall bladder. The calculi were removed and the gall bladder drained by catheter. He did fairly well for ten days. He then developed a left lower lobe pneumonia which he carried fairly well until six days later when he suddenly became cyanotic with a rapid pulse and bloody sputum. He died the next day apparently from his embolism. No autopsy.

Case No. 35. Male, 41 years, storekeeper. This patient gave a history of loss of memory for two weeks previously and of recent headaches. He was irritable and incoherent. Wassermann negative. A diagnosis was made of cerebral hemorrhage. At operation a broken-down blood clot was found on the left side of the brain, 4 cm. from the surface. No cause of the hemorrhage was found. Drainage by a small rubber tube. He developed pulmonary edema and died on the third day after operation. The wound had remained clean. No autopsy.

Case No. 36. Male, 33 years, laborer. This patient entered the Hospital with a history of pain in the right iliac fossa for three weeks, culminating in an acute attack five days before admission. At operation an abscess was found behind the cecum, and both the cecum and ileum in the neighborhood of the ileo-cecal valve were markedly infiltrated, firm and brittle, resembling the condition often seen in the ileo-cecal tuberculosis. On this account 8 cm. of cecum and 80 cm. of ileum were resected, an end to side anastomosis being done by suture. Drainage was used to the pelvis and to the site of the abscess by "counter drainage" in the loin. He developed ileus on third day. Enterostomy was done with the insertion of a Paul tube. He died shortly afterwards. No autopsy. The pathological report was: Streptococcus viridans and staphylococcus albus. The microscopical report on the bowel removed was: Acute and chronic inflammation of the ileum and acute and chronic inflammation of the appendix. In this case a condition existed which is an extremely perplexing one even to the abdominal surgeon of experience. A low grade of peritonitis with intestinal cellulitis, starting from the appendix, may produce a picture distinguished with difficulty from that of an extensive malignant growth or tuberculosis. In the case of a malignant growth or of tuberculosis one wishes to remove the whole area affected without disseminating any of the infected elements and yet one may be obliged to tease such tissues apart in search of the appendix in a doubtful case.

Case No. 37. Male, 43 years, metal polisher. This patient was admitted to the Hospital with the history of progressive jaundice for four months. He had a large liver and was deeply jaundiced. His coagulation time was eight minutes. At operation a carcinoma of the pancreas was found with a greatly dilated gall bladder and common duct. The common duct was explored but no calculus found. A cholecyst-duodenostomy was performed by suture method. He died shortly after the operation with the symptoms of hemorrhage. No autopsy. The pathological report on a small piece of pancreatic tissue removed was "carcinoma."

Case No. 38. Boy of 5 years. He was struck by an automobile six hours before admission. He was brought in from the country by rail. He had several minor injuries and a fractured skull. He had developed symptoms of compression. A double craniotomy was done. Clotted blood was found on the left side and marked congestion of the brain on the right. He lived about twenty minutes after the operation. Autopsy showed two long fractures at the base of the skull and considerable subdural hemorrhage over the left frontal lobe. There were also a number of blood clots at the base of the brain around the optic tract.

Case No. 39. Male, 38, tailor. This patient came to the Hospital with an old empyema sinus following a thoracotomy for abscess of the right lung, done eight months previously in a hospital in the West. The discharge from the sinus was very profuse and persistent. Amyloid degeneration of the kidneys was suspected. The *x*-ray plates showed a markedly contracted lung. A decortication was attempted but the excessive hemorrhage caused the operation to be abandoned. Two transfusions were given but resulted in little or no benefit. He died of his nephritis five months after his admission. No autopsy.

Case No. 40. Male, 52 years, truckman. This patient came into the Hospital in a septic condition with an empyema following a left sided pneumonia of group I. A thoracotomy with resection of portion of rib was done under local anaesthesia.

The cultures from the pus showed a pneumococcus, group I. His blood cultures were sterile. He died about eleven hours later. No autopsy.

Case No. 41. Female, 40 years, housewife. This patient had been in the Presbyterian Hospital in 1911 for stones in both kidneys. Three large ones had been removed from the left kidney, a smaller one escaping detection. The wound had healed fairly rapidly. She was advised to report soon for the removal of the other stones. This she failed to do. She came back in 1912 with a left pyonephritis and a nephrectomy was done. She remained well then until 1917 when the right kidney with its calculi "flared up." She developed uremia and convulsions. She improved somewhat under treatment but died a few days later in uremic coma. Autopsy showed right nephrolithiasis, pyonephrosis, uretitis, acute cystitis.

Case No. 42. Male, 51, laborer. This patient had been treated at the Rockefeller Hospital for a lobar pneumonia, group III, this type of pneumococcus having been recovered both from blood and sputum. He had developed an empyema and was then referred to the Presbyterian Hospital for operation, with the statement that "this is the first case of lobar pneumonia, type III, with positive blood cultures, observed in the Rockefeller Institute, that has survived." (March 21, 1917.) Under local anaesthesia the chest was explored in the same area where pus had been found with the exploratory needle at the Rockefeller Hospital. The cavity was found but it seemed to be empty. In hunting for a deeper pocket the diaphragm was perforated but immediately sutured. The entire thoracic cavity on the affected side was carefully explored and the lobes palpated. Adhesions were freed and drainage instituted. A subphrenic abscess formed. This was opened and drained. He died two days later with pulmonary edema. No autopsy.

Case No. 43. Female, about 54 years, laundress. This patient was brought in from the street in an unconscious condition. A police officer had found her lying in the gutter. She had a large hematoma over the right temporo-occipital region. There were signs of cerebral compression. She died a few minutes after admission. No hospital autopsy.

Case No. 44. Male, 26 years, printer. This patient entered the medical service of the Hospital suffering from chronic uraemia. He was carefully followed and treated by the Research Department. He showed an increasing blood urea, and constantly diminishing renal function. He developed marked anasarca and fluid in both abdomen and chest. As a last resort renal decapsulation was performed on the left side. He died about twelve hours later. No autopsy.

Case No. 45. Male, 66 years, sexton. Following a trauma which this patient claimed had occurred six weeks previously he developed a rapidly growing carcinoma of the left breast and axillary involvement. A "radical" operation was performed on the left breast and axilla, followed later by the skin grafting of unclosed areas. He developed a left lower lobe pneumonia (group IV) and died with pulmonary edema about six weeks after his first operation. No autopsy.

Case No. 46. Schoolboy, 13 years. This patient was brought to the Hospital with an acute appendicitis history of five days' duration. He also gave a history of pulmonary tuberculosis. He was acutely ill and cyanotic. At operation a non-tuberculous appendix was found in a condition of gangrene and with it a diffuse peritonitis which progressed until death about thirty-five hours later. No autopsy.

CASE No. 47. Male, 44 years, letter carrier. This patient entered the Hospital with a ten days' history of an acute arthritis of the left knee without known etiology. Aspiration of the knee joint was done three times, followed by the injection of a 1% phenol solution. Cultures from the pus from the knee joint showed the presence of a hemolytic streptococcus. Blood cultures showed the same organism. Multiple abscesses developed in different parts of his body and these were opened as they appeared. He steadily failed and died two and a half weeks after admission of his septicaemia. No autopsy.

CASE No. 48. Male, 75 years. This patient came to the Hospital with a Colle's fracture. He had an old hemiplegia and a chronic nephritis. He gradually failed dying two weeks later apparently of uraemia. No operation. No autopsy.

CASE No. 49. Female, 29 years, cook. She had entered this Hospital in 1915 suffering from severe menorrhagia. She had been curetted and menstruation had become normal. It remained so for about two years. She was then readmitted with the history that her menorrhagia had returned four months previously and her periods had also become irregular. Twelve hours before admission she had a chill and fever and her abdomen had become tense and very tender. Blood cultures showed no growth. Those taken from the cervical canal were also sterile. Exploratory curettage revealed no pathological material. As there was no improvement during the next twenty-four hours an exploratory coeliotomy was performed. Some pus was found in the pelvis but no focus could be discovered. The cultures from this pus were found to contain a hemolytic streptococcus. Blood cultures after the operation contained the same organisms. She died of her septicaemia forty-eight hours later. Autopsy was refused and the origin of the peritonitis was not ascertained.

CASE No. 50. Female, 50, housewife. This patient was operated upon for chronic appendicitis, cystic ovary and uterine retroflexion. The operative procedure was: Appendicectomy, partial oophorectomy and uterine ventral fixation. For thirteen days her convalescence was uneventful and the abdominal wound healed without complication. She then developed symptoms of tetanus. She received tetanus antitoxin on the same day and again on the following one with only slight improvement. She died the next day in a convulsion. The source of the infection was not made out. Autopsy was not allowed.

CASE No. 51. Male, 40 years, janitor. This patient entered the Hospital with the following history: He had been perfectly well up to one year ago; he then began to pass pus in his urine without other symptom of note. This continued intermittently up to one month ago when he noticed a swelling in the right lumbar region. This swelling increased gradually in size up to the time of admission. At operation this proved to be a large pyonephrosis containing the bacillus typhosus. The kidney was drained. He died of shock shortly after the operation. The autopsy showed in addition cloudy swelling of both kidneys and of liver with a compensatory hypertrophy of the other kidney. There was an old pulmonary tuberculosis and tuberculosis of the mesenteric lymph nodes.

CASE NO. 52. Boy, 22 months old. This child was brought to the Hospital with a recent history of measles, bilateral otitis, pneumonia and empyema and diphtheria. A cervical abscess had appeared a few days before admission. He was in a markedly septic condition. The cervical abscess was immediately incised and drained. He then developed a bilateral mastoiditis. After consultation it was decided that operation on the mastoid would inevitably be fatal. Attempts to build him up were ineffectual and he died three days later. No autopsy.

CASE NO. 53. Male, 61 years, no occupation. This patient came to the Hospital suffering from oesophageal obstruction. This was thought to be of a carcinomatous nature. A gastrostomy was done. He died on the eighth day apparently of pneumonia. No autopsy.

CASE NO. 54. Male, 22 years, laborer. This patient spoke but little English. He came in with a two weeks' history of headache, dizziness and increasing loss of vision. There was no vomiting nor paresis. The spinal puncture was negative except for slight increase of pressure. The spinal fluid Wassermann was negative with both antigens. There was a positive Kernig on both sides. The ophthalmic examination showed some disc atrophy. An exploratory craniotomy was done but no tumor found. The ventricle was found to be dilated. He became comatose and died on the fourth day. No autopsy.

CASE NO. 55. Male, 32 years, polisher. This patient entered the Hospital with an eight months' history suggesting pyloric obstruction. There was an ulcer history. At operation a large growth was found involving the stomach, but gastroenterostomy was not feasible. A portion of involved omentum was removed for microscopical examination. The report on this was: metastatic carcinoma. He failed rapidly and died on the sixth day. No autopsy.

CASE NO. 56. Female, 86 years. This patient came to the Hospital with a strangulated femoral hernia. The symptoms of strangulation had appeared about twelve hours before. At operation under local anaesthesia the strangulated bowel was found to be gangrenous. Fourteen centimetres were resected and the open ends sewed to the skin edges. She died of shock about twelve hours later. No autopsy.

CASE NO. 57. Male, 47 years, laborer. This patient entered with the history of a first acute attack of upper abdominal pain three years before, with chill, fever and vomiting, but no jaundice. Similar attacks had occurred every few weeks since then and with increasing severity. On admission the gall bladder was found to be palpable and tender. The *x*-ray plates showed no evidence of biliary calculi. At operation a solitary calculus was found in the hepatic duct. The gall bladder was thickened, but contained no stone. The hepatic duct stone was removed. A cholecystectomy was performed, with tube drainage of the hepatic duct. The patient did fairly well after the operation. Trouble was experienced, however, with the hepatic duct drainage tube, which became plugged with mucus at frequent intervals, and a right subphrenic abscess developed. This was incised and adequately drained by removing a portion of the tenth rib in the post-axillary line (two-stage operation). The pus from this abscess contained a hæmolytic streptococcus. About a month later a small mass, apparently of an inflammatory nature, was made out in the pelvis. An exploratory laparotomy did not reveal the origin of this mass, which seemed to contain no pus, but a few days later bile was found to be leaking through it. A post-operative pneumonia developed and the patient died on the next day with edema of the lungs. The urine had shown hyaline and granular casts very constantly after the first operation. The blood cultures had shown no growth at any time. No autopsy.

Case No. 58. Female, 42 years, housekeeper. This patient entered the Hospital with a two weeks' history of boils of the neck and back. Two of these had disappeared, one had been incised and had healed and the remaining one over the left scapula had rapidly progressed in spite of superficial drainage four days before admission. The pain from it had continued and just before she entered the Hospital it broke, discharging pus copiously. She was found to be distinctly apathetic; pulse rate 160; temperature 101° F. There was a carbuncle over the left scapular region about five inches in diameter with indurated edges and much slough. The pus contained staphylococcus aureus. She was found to have diabetes. Adequate drainage was secured by crucial incision with the lifting up of the flaps. Under starvation diet the sugar disappeared from the urine and the carbuncle "cleared up." Blood cultures at this time showed no growth. A few days later abscesses appeared over the anterior surface of both legs. These were incised and a staphylococcus aureus again obtained. Blood culture at this time showed a staphylococcus aureus also. In her lungs, which had previously been clear, appeared many moist rales but no evidences of consolidation. Over the apex of the heart a soft systolic murmur was detected for the first time. She then had a sharp chill and some pus appeared in the urine, but there was no evidence of nephritic or perinephritic abscess. Her septicemia rapidly progressed and she died fourteen days after the staphylococci had appeared in her blood. The wounds had been treated with the Carrel-Dakin method. No autopsy.

Case No. 59. Male, 57 years. No occupation. The only history given by this patient was one of repeated but transient attacks of colicky pain in the epigastrium. Exploratory operation revealed a large carcinomatous growth of the stomach, involving the pars media towards the greater curvature, and some enlarged glands. Partial gastrectomy was done and a gastrojejunostomy, the anastomosis being made with the upper part of the stomach. The patient stood the early part of the operation nicely, but towards the end shock supervened and in spite of active stimulation he died about five minutes after the operation was completed. No autopsy. The pathological report on the removed growth was "carcinoma of the stomach."

Case No. 60. Female, 50 years. This patient was knocked down by a taxi and immediately brought in to the Hospital in an unconscious condition. The following injuries were diagnosed: contusion of the brain, fractures of radius and ulna, lacerated and contused wound of the forehead. Examination of the lungs showed a pulmonary edema. A few minutes after admission she regained consciousness long enough to give her name, but died shortly afterwards. No operation. No autopsy.

Case No. 61. Female, 37 years, housewife. This patient entered the Hospital with a vague history of pelvic pain of about two weeks' duration, with fever and vomiting. On the left side of the pelvis was a mass apparently of inflammatory nature. At operation an abscess of the left Fallopian tube was found. A left salpingo-oophorectomy was done, with drainage. She did poorly after the operation, soon presenting the signs of a spreading peritonitis, with a considerable amount of hemorrhage from the drainage tract. It was thought that there was some intraperitoneal bleeding as well. A transfusion was done and the wound revised. A generally diffused purulent peritonitis was found. Generous drainage was used, but she died from her sepsis six days later. The cultures of the pus at the first operation were found to contain hemolytic streptococcus. No autopsy.

Case No. 62. Female, 58 years, housewife. This patient entered the Hospital with a one-year history of recurring attacks (8-9) of constipation. Each attack lasted about 48 hours, with fecal vomiting and abdominal pain, finally relieved by enemata. She entered on the second day of this, her last attack, also with fecal vomiting. At operation an annular carcinoma of the splenic flexure of the colon was found, with some enlarged glands in the mesocolon. The lumen of the gut was almost obliterated. A resection of the involved gut was done and an end to end Murphy button anastomosis. Lumbar drainage was used. She stood the operation fairly well. The post-operative vomiting was controlled by repeated gastric lavages. She died suddenly on the following day. The pathological report on the tumor removed was "Carcinoma of the colon with metastases in the mesenteric glands." No autopsy.

Case No. 63. Boy, 5 years old. This child had been operated upon in this Hospital a little less than a year before for acute appendicitis with large peritoneal abscess. The abscess in the right iliac fossa had extended across the abdomen beyond the umbilicus. The appendix had been removed and the stump inverted. A double wicked rubber tube had been inserted to the pelvis and the wound partially closed by suture. He had made a good recovery and drainage had been discontinued after the twelfth day. The skin wound healed slowly. The bowel movements were normal for four months. He then began to complain of abdominal cramps and there was some distension and a little fever. Following a laxative and several enemata these cleared up in a few days and he remained well until just before his readmission to the Hospital. At that time he was seized with abdominal pain and vomiting. These kept up for 36 hours and the bowels did not move. An enema was given to him at home with excellent result. He continued vomiting, however, and on the following day an enema was not effectual. Calomel and salts were given to him at that time by an outside physician with no result. He was then brought to the Hospital. On admission it was said that he had not vomited for twelve hours. His lower abdomen was distended and tympamitic; there was marked resistance in the left lower quadrant where the patient localized his pain. The diagnosis was made of acute intestinal obstruction and immediate operation undertaken. A loop of gangrenous ileum was found close to the ileo-cecal junction and a dense adhesion binding the ends of the loop tightly together and strangulating it. The peritoneal cavity contained brownish and foul smelling fluid. There were no adhesions to the old appendix site. The gangrenous loop was resected. The portion of the ileum attached to the cecum was closed and the other end was brought out of the abdominal wound with the rubber-covered clamp still on. The patient's condition at the end of the operation was extremely bad, but he reacted gradually and after the third day improved quickly. The resulting fistula was operated on about two months later, the fistulous tract and four inches of ileum being removed and an end to side enterocecostomy done by suture. Rubber tube drainage was placed to the right iliac fossa. He did fairly well for two days, but his postanaesthetic vomiting continued and he became distended. His bowels moved well after pituitrin on the fourth day, but he grew progressively weaker with local signs of peritonitis and died seven days after the operation. No autopsy.

Case No. 64. Male, 19 years, salesman. Three days before admission he had been run over by a trolley car and had received a compound fracture of the tibia with penetration of the knee joint and extensive lacerated wounds of the soft parts of the leg. He had been taken to one of the City hospitals, where the devitalized flaps had been removed and he had been given tetanus antitoxin. His wounds had been dressed with Dakin's solution, but he had rapidly become septic. He was transferred to the Presbyterian Hospital three days after his injury. He then presented areas of gangrene in his large open wound; the discharge was scant and foul smelling, but there were no signs of a spreading infection. There was a compound fracture in the lower third of the tibia and the knee joint was open and full of pus. He was markedly septic. A circular amputation was done through the lower third of the thigh (in order to get above the infected area) and the wound left wide open. Blood cultures made at this time showed a hemolytic streptococcus. A transfusion of 400 cc. of citrated blood intravenously was done, but he died of his septicæmia on the fourth day after his amputation. No autopsy.

Case No. 65. Boy, 6 years old. This boy was struck by a rapidly moving automobile and hurled to one side of the street. He was picked up unconscious and immediately brought to the Hospital. No other history obtainable. He was unconscious and very restless. He vomited at intervals. He presented a palpable fracture on the left side of the skull over the parietal area, under a large hematoma. The left arm and leg were flaccid. At operation an extensive fracture was found from the left superior temporal line across the vertex to below the temporal line on the other side. There was also a fracture running back from the vertex to the left mastoid bone. The fractured parietal bone had been driven inwards. The dura had been torn on the left side, allowing the brain-tissue to ooze out. On the right side the superior longitudinal sinus had been torn half way across. The longitudinal sinus was sutured, but the patient died on the table. No autopsy.

Case. No. 66. Male, 16 years, office boy. This boy was brought to the Hospital with a 48-hour history of appendicitis. He had tenderness in both lower quadrants, and only on rectal examination could a mass be made out, high up in the pelvis on the right side. At operation a perforated and gangrenous appendix was found hanging down in the pelvis, with an abscess at its tip. There was a considerable amount of turbid fluid without odor in the peritoneal cavity. The appendix was removed and the stump inverted. Five Carrel-Dakin tubes, covered with silk, were placed to the pelvis. Smears from the appendix showed Gram negative bacilli and Gram positive cocci. On the third day after operation a mass was made out in the left lower quadrant and the tubes were found to be draining inadequately; larger tubes were substituted and improvement immediately followed. The pelvic condition, however, did not clear up entirely and another mass was discovered in the pelvis twelve days later. This was explored with the finger but no pus was found. Counter drainage was made. The blood count at this time was 48,400 whites: 94 per cent. poly. Blood cultures were sterile. He looked badly and rapidly became worse, dying of his peritonitis apparently, two days later. No autopsy.

CASE No. 67. Male, 59 years, engineer. This patient had been in the Presbyterian Hospital about one year before suffering from general arteriosclerosis, hypertension, hypertrophy of the prostate, acute prostatis and acute cystitis. He had been cystoscoped and no calculus found. He was considered to be a poor surgical risk and was referred to the medical division for treatment. He was discharged seven weeks later greatly improved, his bladder symptoms having practically subsided. He was seen and treated at intervals in the out-patient department during the following year. He was then readmitted to the Hospital with an atypical group II. pneumonia of the left lower lobe. His chest signs suggested the presence of fluid and a few drops of pus were obtained by aspiration. Thoracotomy was done with the removal of a portion of the eighth rib, but no pus "pocket" was found. Five days later a few drops of thick, creamy pus were obtained by aspiration through this same incision, but still no pocket could be found. He rapidly failed and died the next day. It was thought that he had multiple small abscesses of the lung. The cultures of the chest fluid were all sterile. No autopsy.

CASE No 68. Male, 67 years, farmer. This patient was admitted to the Hospital with symptoms of urinary calculus dating back about two years. The bladder was opened suprapubically and many calculi found and removed. All three lobes of the prostate were found to be markedly enlarged and they were removed. The bladder was drained. He died on the fourth day, apparently from myocarditis. At autopsy the following conditions were found: general arteriosclerosis involving especially the aorta, coronaries, splanchnics and renals; chronic myocarditis; cardiac hypertrophy; acute and chronic cystitis; a lobular pneumonia (a few small patches). The kidneys showed only slight changes. The microscopical report of the prostatic tissue removed was: hypertrophy of the prostate.

CASE No. 69. Male, 57 years, clerk. He entered the Hospital with the following history: Increased frequency of urination for the last ten years; two and a half years ago an attack of retention, relieved by catheter: one of his testicles swelled up at that time; he had suffered from pain of varying severity both during and after urination for many years. On admission he was found to have a large prostate and a moderate cystitis; the right epidymis was large, firm and tender; there was some hydrocele of the right tunica vaginalis. A two-stage prostatectomy was decided upon. At the preliminary suprapubic cystotomy a very large left lateral lobe and a moderate sized right lobe were found with an acutely inflamed bladder wall. Tube drainage was used. He recovered nicely from the operation, but in spite of ample drainage the wound edges became covered with a foul exudate and were slow to "clear up." A number of pustules appeared around the wound. Six days after his operation diarrhœa set in and continued with slight remissions until death about six weeks later. After the diarrhœa had existed for a few days each bowel movement was accompanied by an attack of severe pain in the rectum and bladder regions, and this pain was at times referred to the end of the penis. The finger was introduced into the bladder to find out whether calculus had formed there. A small one was found and removed. No other could be felt, but the paroxysms continued in increasing severity, requiring the use of sedatives. There were no evidences of spinal cord lesion and his Wassermann was negative. He gradually failed. An attempt to brace him up by means of blood transfusion (440 cc.) was unsuccessful. The completing operation (prostatectomy) was never done, the patient not being at any time in condition to stand it. The cause of the spasms was not made out. The stools contained no ova or parasites, no amœbæ. No autopsy.

Case No. 70. Male, 57 years, laborer. This patient entered the Hospital with a four days' history of abdominal pain and vomiting, the bowels moving regularly every day. A small mass was felt in the left lower quadrant. At operation a loop of gangrenous small intestine about 1½ feet long was found in the pelvis with surrounding adhesions, and there was pus in the pelvis. The cause of the gangrene was not made out. The gangrenous loop was excised and an end-to-end Murphy button anastomosis done. Deep drainage was not used. He stood the operation fairly well. The abdominal wound broke down in a few days and there was a resulting high intestinal fistula. This was excised 39 days after the previous operation and the small intestine anastomosed end to side by suture. He died two days later with the signs of a spreading peritonitis. No autopsy.

Case No. 71. Schoolboy, 12 years old. This patient had been shot in the neck four years before, a No. .32 bullet lodging in the body of the seventh cervical vertebra. During the following years he had suffered from repeated attacks of meningitis, which were treated with autogenous vaccines and sera of various kinds, both intravenously and intraspinally. The attacks had become progressively worse. He came to the Hospital during one of these attacks and it was thought that the only hope lay in the removal of the bullet and drainage. At operation the bullet was found surrounded entirely by bone and lying in a smooth lined cavity. There was no macroscopical pus in the cavity. The blood cultures had shown no growth, but the spinal fluid had shown staphylococcus aureus. After his operation his meningitis continued, progressing until his death, eleven days later. The autopsy revealed both chronic and acute cerebrospinal leptomeningitis with a staphylococcus aureus, and a chronic pulmonary tuberculosis. No definite communication was found between the cavity where the bullet had been and the meninges, although only a membrane seemed to separate the dura from this cavity. There was no inflammatory reaction in the dura itself nor in the vertebrae in this region. The pia arachnoid, however, showed an extensive hemorrhagic (operative) exudate involving the cervical and dorsal and part of the lumbar portions. Cultures from the base of the brain and from the spinal fluid showed "staphylococcus aureus." A note by the pathologist who made the autopsy stated that * * * while no gross communication can be demonstrated between the bullet cavity in the seventh cervical vertebra and the meninges, there can be little doubt but that the original infection had extended directly from the vertebra to the meninges, probably by way of the lymphatics.

CASE No. 72. Boy, 18 months old. This child was brought to the Hospital in a markedly septic condition with a mass of suppurating glands in both sides of the neck and spreading cellulitis. The glands had begun to swell after an attack of measles, it was said, and had been incised at various times since then. His leucocyte count was 30,000; poly 80 per cent. He died shortly after admission. The pus cultures at autopsy showed a hemolytic streptococcus.

CASE No. 73. Female, 27 years, packer. This patient entered the Hospital with a history of indigestion and marked constipation for about one year. A cauliflower growth was found in the rectum beginning about 2½ inches above the sphincter ani. A preliminary colostomy was done. Two days later in order to improve her general condition a transfusion of 700 cc. of blood was performed. Two weeks later a "Kraske" resection was done. The resected growth was found to be a very high and extensive carcinoma. She had a good deal of shock in the operation and there was much bloody oozing from the wound afterwards. She hiccoughed persistently. She died on the fifth day, apparently from hemorrhage and shock. No autopsy.

CASE No. 74. Female, 46 years, housewife. This patient came to the Hospital in her first attack, which had begun twenty-three days before, of pain in the epigastrium and right upper quadrant, with the gradual onset of jaundice. No mass could be felt. Her blood coagulated in ten minutes. At operation a thickened and distended gall bladder was found containing a large calculus. There was a calculus in the cystic duct and one in the common duct which was markedly dilated. The gall bladder and all of the calculi were removed, the common duct being opened and drained. She did poorly after the operation. The discharge of bile through the drainage tube was scanty and her jaundice deepened. There was no evidence of peritonitis. Her post-operative urine showed hyaline and granular casts in abundance. She died two days after her operation. No autopsy.

CASE No. 75. Male, 60 years, furrier. This patient was an old diabetic. He entered the Hospital with a gangrene of the toe. Sepsis set in and an amputation had to be done through the middle thigh. His sepsis progressed, a hemolytic streptococcus being recovered from his blood. He died on the third day after his operation. The pathological report of the vessels of the amputated limb was "arteriosclerosis." No autopsy.

CASE NO. 76. Female, 43 years, maid. This patient came to the Hospital with a six weeks' history of daily vomiting, headache and loss of weight. Mentally she was not clear and this interfered with accurate tests of vision. She had fibrillary tremors of the tongue, and a beginning papillitis of both eyes (2-3 diopters), with exudate and hemorrhages of the right eye, much less in the left. She was very restless and the examination was necessarily hasty. Otherwise her neurological examination was negative. Spinal Wassermann was negative, fluid clear, 10 cells. Von Pirquet was negative. She developed some rigidity of the neck. A diagnosis was made of increased intracranial pressure, but the localization was not possible. A frontal tumor was suggested. A little later she developed weakness of the left arm and leg, and the eye signs became more marked. An exploratory craniotomy was done on the right side. The brain was seen to bulge markedly and it did not pulsate. There was an edematous greyish exudate along the vessel. The brain was needled in various places, but no fluid found. (Three attempts at callosal puncture failed.) No tumor found. After the operation the patient became weaker and more stuporous and died on the twenty-sixth day. Autopsy revealed a glioma of the right temporal lobe. The tumor was full of large blood spaces with extensive areas of necrosis and hemorrhage.

CASE NO. 77. Male, 20 years, clerk. One month before admission he had begun to have severe frontal headaches which of late had become less severe. There had been occasional vomiting and drowsiness. He was found to stagger to the right and held his head to the right also. He had double-choked disc. Romberg present. Serology and *x*-ray were negative. A diagnosis was made of left cerebellar tumor. The patient was given ether. Aftew twenty minutes' administration his breathing became very irregular, superficial, and after a few moments all respiratory effort ceased. Artificial respiration was maintained for 16½ hours, during which time a Corpus callosum puncture was done. This did not influence the patient's condition in the least. So long as artificial respiration was maintained his color remained good, his pulse strong. When artificial efforts at respiration ceased he became extremely cyanotic and his pulse became irregular. Both these conditions improved on resumption of respiratory efforts. Four hours later a subtemporal decompression was done with no apparent benefit. The brain was found to be applied closely to the dura and the ventricles were filled with clear fluid under considerable tension. No autopsy.

CASE NO. 78. Male, 34 years, physician. There was a history of headaches and of failing vision for 2½ years, with pain in the legs and loss of bladder and rectal control. He showed complete bitemporal hemianopsia and weakness of the muscles of the legs. There was a low sugar tolerance. His spinal Wassermann was negative. The *x*-ray plates showed obliteration of the landmarks around the sella turcica and calcareous deposits in the region of the hypophyseal body. At operation (transsphenoidal decompression) the walls of the sella turcica were found to be thin and there was a mass of very vascular tissue in the fossa. The microscopical report on this tissue was "adenoma of the hypophysis." The patient died suddenly about six hours after the operation, without any evidences of hemorrhage. No autopsy.

Case No. 79. Male, 21 years, trustee. Six weeks before his admission to the Hospital this patient had both tonsils removed on account of frequent attacks of grippe, which had been attributed to the tonsils. He had bled profusely at the operation; a few days later he developed a cough with fever; eleven days later a foul odor was noticed to his breath and the sputum became very offensive. Streptococci and elastic fibres were found in it. It was thought that he had an abscess of the lung, which had ruptured into a bronchus. On admission to the Hospital his chest was *x*-rayed. The plates seemed to show a small abscess behind the heart near the root of the lung. The patient's condition grew rapidly worse. A two-stage operation was done. After the abscess had been incised he suddenly stopped breathing and died. The smears from the lung abscess showed Gram positive diplococci, probably streptococci. The cause of death was not ascertained. No autopsy.

Case No. 80. Male, 57 years, clerk. This patient entered the Hospital with a four weeks' history of pain after eating and the feeling of a lump in the epigastrium. Jaundice had been present for three weeks. On admission a mass was felt in the right upper quadrant. It was slightly tender and had a sharp lower edge. There was a nodule connected with the left epididymis. At operation it was difficult to make out the exact pathological conditions present. A large, hard mass of glands was found which appeared to obstruct the common duct. A cholecystostomy was therefore done, with tube drainage. There was very little bile discharge through the tube after the operation and jaundice deepened. A postoperative pneumonia developed and he died on the fourth day. At autopsy a carcinoma of the cystic duct was found which had compressed the hepatic duct.

Case No. 81. Male, 48 years, butcher. This patient entered the Hospital in a first attack with a 24-hour history of lower abdominal pain and vomiting, but no constipation. His abdomen was distended and generally tender, but there was no definite rigidity—the latter fact being perhaps due to the morphine which he had received before admission. His temperature was 103° F. Blood count 9,500 whites, 82 per cent. poly. A diagnosis was made of acute ileus. At operation, which was done a few hours later, a general peritonitis was found, with thin, foul, yellowish pus. The peritoneal surfaces were red and angry looking. The acutely inflamed appendix was located in the center of the abdomen surrounded by coils of small intestine. The pus was aspirated from all quadrants and the appendix removed. The pelvis was drained with a double "wick" tube The ileus persisted, vomiting becoming fecaloid, and he died on the third day from sepsis. His blood cultures showed a bacillus belonging to the paratyphoid group. Cultures from the peritoneal pus grew bacilli, which gave the fermentation reaction of paratyphoid bacilli. The patient had given the history of an attack of typhoid fever some four years before. No autopsy.

Case No. 82. Male, 47 years, furrier. This patient entered with a twelve-day history of pain in the chest and cough. He had been treated for left lower lobe pneumonia. On admission he looked very sick and he was cyanotic and dyspnœic. His blood count was 44,000 whites, 96 per cent. poly. His left chest presented signs of fluid. The pus aspirated from it showed a non-hemolytic streptococcus. A thoracotomy was done with the removal of part of the ninth rib and rubber tube drainage. This drainage was adequate, but he steadily failed and died, apparently of his sepsis, on the third day. His throat cultures had shown a Gram positive organism, probably a streptococcus. No autopsy.

Case No. 83. Female, 53 years, housewife. This patient was operated upon for a carcinoma of the cervix uteri, an abdominal hysterectomy being performed with the removal of both tubes and of one ovary. She died thirty-one hours after operation, apparently from shock without evidences of hemorrhage. A transfusion of blood was performed two hours before death. The pathological report of the cervix was "carcinoma." No autopsy.

Case No. 84. Male, 66 years, no occupation. This patient entered the Hospital with a history of marked loss of weight aud strength for six months, of diarrhoea on and off for four months and of abdominal cramps for two weeks. At operation there was found a colloid carcinoma of the terminal portion of the ileum which was invaginated into the cecum and ascending colon. The appendix which was also invaginated with the rest of the mass had become gangrenous and perforated. A resection was done of the terminal ileum together with 95 cm. of the large intestine (which included the cecum, the appendix, the ascending, transverse and descending and most of the sigmoid colon). A side to side ileo-sigmoidostomy was then done with suture. He died, apparently of shock, about twenty-four hours after the operation. No autopsy.

Case No. 85. Female, 34 years, housewife. This patient entered the Hospital for the removal of a pelvic mass which had given pressure symptoms for about one year and which was thought to be a fibromyoma of the uterus. At operation a large cyst of the ovary was found wrapped up in a mass of adherent intestines and omentum and firmly jammed in the pelvis. It was removed and on account of the oozing the pelvis was drained. Peritonitis set in after the operation and a fecal fistula formed on the fifth day. The peritonitis progressed and she died (probably of her sepsis) on the nineteenth day after operation. No autopsy.

Case No. 86. School girl, 10 years of age, of Italian parentage. She entered the Hospital with a four years history of enlargement of the neck. She presented a large, soft and irregularly lobulated, tumor of the thyroid. During its removal the patient suddenly stopped breathing and in spite of energetic treatment her heart action ceased soon after. After death the thyroid and thymus glands were removed. The report on the thyroid was: Adenoma; that on the thymus was: Persistent thymus. It was thought that traumatism to the vagus nerve might have contributed to the sudden death.

It is of interest in connection with this case to note that later on her sister with practically the same trouble was treated with thyroid extract with complete disappearance of the swelling.

Case No. 87. Male, 32 years, in the insurance business. This patient entered with an eighteen hour history of abdominal cramps and absolute constipation. His abdomen was distended. He was tympanitic in the left flank and dull in the right.

There was a suspicion of a fluid wave. There was no result from enema. It was thought that the condition was one of intestinal obstruction (for his appendix had been removed two years before and drainage had been kept up for about five weeks at that time). At operation a purulent peritonitis was found with intestinal coils variously kinked by adhesions to the appendix scar. The condition of the sigmoid colon suggested a diverticulitis as well. The kinked loops were untwisted and a colostomy done with drainage for the purulent peritonitis. After operation ileus set in and he died, apparently from this, on the second day. The cultures from the peritoneal fluid at operation showed: (a) B. coli communis; (b) bacteria belonging to the streptothrix group. No autopsy.

Case No. 88. Female, 53 years, housewife. She came in with a complete prolapse of the uterus of four years duration, and there was also a tender mass, apparently of inflammatory nature, back of the uterus. She was treated for several days with vaginal douches. At operation a large left pyosalpinx was found and removed and a supravaginal hysterectomy performed with suprapubic drainage. Peritonitis set in and she died on the fourth day of paralytic ileus. No autopsy.

Case No. 89. Female, 35 years, housewife. This patient had been in this Hospital seventeen months previously for a carcinoma of the cervix uteri which had progressed beyond the so-called operable stage. On this account the internal iliac arteries had been ligated and a double salpingo-oophorectomy done at the same time, followed by a "Percy" cauterization of the uterus. The operative wound had healed nicely and she had gone home and increased markedly in weight and strength. Two weeks before her last admission a gradual enlargement of the abdomen had begun and symptoms of chronic ileus had appeared. These progressed until her death two weeks later (eighteen months after her previous operation). Autopsy showed metastases in the peritoneum and lungs. The carcinoma of the cervix had extended to the pelvic tissues causing intestinal obstruction by an almost complete obliteration (by tumor tissue) of the lumen of the rectum at its junction with the sigmoid.

Case No. 90. Female, 51 years, widowed, no occupation. This patient came to the Hospital with a diabetic history of long standing and a number of large carbuncles. These were opened and drained. She was placed on the Allen treatment for her diabetes with very little improvement. Her acidosis was very marked. She died suddenly two weeks after admission. The cultures of the pus taken from the carbuncles showed staphylococcus pyogenes aureus. Autopsy showed a chronic pancreatitis and fatty replacement of the pancreas, with cholelithiasis (stones in the gall bladder).

Case No. 91. Female, 47 years, married, housework. This patient came to the Hospital with a history of recent diabetes. She had a gangrene of the big toe. This was removed but purulent inflammation spread up the leg, following the extensor tendons. Large drainage incisions were made. Her temperature stayed up and little or no control was obtained of the infection. Large sloughs and gangrenous areas formed extending up to the perineum. Her blood sugar was high on admission and her tolerance extremely low. On the day before her death she received an infusion of Sod. Bicarb. solution without benefit. She died in coma twenty-three days after admission. No autopsy.

Case No. 92. Male, 35 years, driver. This patient came to the Hospital giving a twenty-four hour history of very violent pain in the region of the umbilicus with persistent vomiting and prostration. His abdomen presented a board like rigidity everywhere and general tenderness. At operation, which was done on admission, there was found a diffused purulent peritonitis of an apparently severe type, originating in a gangrenous appendix. The appendix was removed and double tube drainage inserted to the pelvis. His condition at the close of the operation was critical and he died within the hour in spite of active stimulation. Cultures from the appendix showed: (1) A gram neg. bacillus of the colon group; (2) a gram positive cocus, probably a diplococcus; (3) a gram positive coccus (not a diplococcus). No autopsy.

Case No. 93. Male, 46 years, letter carrier. This patient entered the Hospital with a four months' history of hematuria and pain in the region of the right kidney, coming on in attacks. The *x*-ray showed a calculus in the pelvis of the left kidney. The calculus was removed through the pelvis of a normal looking kidney. The calculus was a small one, 18 by 10 by 4 mm. Following the operation he did fairly well except for a rather scanty urine excretion. It was hard to ascertain the exact amount of urine excreted on account of the urinary discharge through the lumbar wound. On the ninth day he became flighty and his urine output was almost nil. His blood urea was found to be .415 grms. per 100 c.c. The usual methods were made use of but he died of uremia on the tenth day after operation. No autopsy.

Case No. 94. Male, 48 years, attendant. This patient came to the Hospital with a two years' history of diabetes and with a gangrene of the toe of four weeks' duration. He was placed immediately on medical treatment for the diabetes. The gangrenous process spread and the second and third toes of the left foot were amputated. Subsequently the process spread up the posterior tendon sheaths and an amputation had to be done at the upper third of the leg. The *x*-rays had shown marked calcification of the arteries of the leg. He had a urethral stricture of old standing and he shortly developed a cystitis and later on a suppurative infection of the kidney. He died on the twenty-second day after admission in a comatose condition. His blood cultures had been sterile. His blood sugar had been 325 mg. of glucose per 100 c.c. of blood. At autopsy a chronic pancreatitis (intralobular) was found with fatty replacement of the pancreas; arteriosclerosis of the iliac and femoral vessels, chronic cystitis and multiple abscesses in the kidney.

Case No. 95. Boy, 3 years. The history was that two months previously he had suddenly become unable to walk, falling backwards when he attempted to do so. He had also had some pain in the right eye and some loss of vision. His mentality had been dull. It was found that he had muscular twitchings and nystagmus, some muscular weakness, hyperactive knee jerks and a doubtful Babinski and ankle clonus. A provisional diagnosis was made of tuberculous meningitis or brain tumor. Eighteen hours after admission he developed edema of the lungs and died about one hour later. No autopsy.

Case No. 96. Male, 46 years, butler. This patient entered the Hospital with the history of having had a pneumonia six months previously, from which he had not made a satisfactory recovery, the cough and foul sputum continuing. He was in bad condition when admitted, the right chest being flat with absence of breath and voice sounds. The heart sounds were very feeble. A diagnosis of lung abscess was made. While the chest was being explored he suddenly became pulseless and died. There was no autopsy. The cultures from the pus removed by aspiration showed a non-hemolytic streptococcus.

Case No. 97. Female, 20 years, stenographer. This patient had suffered from abscesses of both sides of the neck in childhood; they had been lanced and had healed permanently. Eight months before admission to the Hospital a swelling had appeared in the left side of the neck and this had grown very slowly at first and with little or no pain. A few months later a similar swelling had appeared on the right side and had rapidly enlarged with some pain. For the last five months the swellings had remained in a stationary condition but the pain had increased and there had been almost constant headaches. She had lost about ten pounds in weight during this time, and had become much weaker. When admitted to the Hospital there were found in both cervical regions, just below the lobes of the ears, several hard and irregularly outlined masses which felt like enlarged glands matted together. The teeth and tonsils were normal and so were the scars of the previous incisions in the neck. A diagnosis of tuberculous glands was made. At operation the glands were removed through incisions on both sides of the neck. Their removal was tedious and difficult on account of the periadenitis present, the operator being specially careful not to injure any of the contacting nerves. There was very little hemorrhage and only slight trauma was inflicted to the tissues. At the completion of the operation, just as the skin wounds were being sutured, it was noticed that she suddenly stopped breathing and her pulse became of poor quality. Her anaesthesia had been light for some time and a small amount of ether had just been administered. Artificial respiration and stimulation were immediately resorted to and through an incision in the upper abdomen the heart was massaged through the diaphragm; but all measures were of no avail. Her pulse had been 120 to 130 to the minute during the operation. Ether had been given by the so-called "open method" and intrapharyngeally. The time of operation had been 1 hour 15 minutes. The cause of death was thought to have been the anaesthesia. Her persistent headaches before her operation may have been due to a cerebral lesion without other symptoms. The pathological report on the removed glands was "carcinoma." There was no autopsy.

Case No. 98. Boy, 2 years old. He was the seventh child, born at full term in a normal labor; weight seven and a half pounds. Except for some constipation he had always been normal. Eight weeks before admission to the Hospital his mother had noticed that he voided small quantities of urine at frequent intervals. A few days later he had an attack of retention and complained of pain over his bladder. He had to be catheterized regularly night and morning after that, about six ounces of urine being drawn each time. *X*-ray plates taken about this time were reported to be negative as to the bladder. His bladder had been washed out regularly but he had been able to pass only small amounts of urine at times. There had been no fever nor vomiting. The urine had been reported as light colored with no blood. On admission to the Hospital he presented a mass above the pubes which was at first thought to be a full bladder. After catheterization, however, a small mass could be felt above the pubes and this same mass could be felt by rectum. It was smooth, oval in shape and extended backwards almost to the promontory of the sacrum. Otherwise his physical examination was negative. The urine showed pus cells in abundance and was cloudy and foul smelling. Cultures from it showed a bacillus mucosus capsulatus. The pelvic mass grew rapidly upwards. He had no fever. His blood count was low. A diagnosis was made of abscess between bladder and rectum. At operation a retroperitoneal sarcoma was found which was thought to have originated in the tissues about the spermatic cord at the base of the bladder. The mass was removed and the wound drained. After the removal of the obstruction the child was able to void for a few days only. He then had to be catheterized again and the mass recurred rapidly. His condition was not such as to warrant another operation. He failed steadily and died on the fifty-second day after his operation. No autopsy.

CASE No. 99. Male, 61 years, no occupation. This patient came to the Hospital for an immediate operation for perforated duodenal ulcer. He had a chronic nephritis and a bad heart. He looked very sick. At operation a large and eroded ulcer of the duodenum was found which was leaking a milky fluid into the peritoneal cavity. This milky fluid with small particles of food floating in it was distributed throughout the various peritoneal pouches. The ulcer was closed by pursestring suture and the omentum brought over it and sewed to it. The peritoneal cavity was thoroughly flushed out with warm saline solution and rubber tube drainage placed to Morrison's space. He was under the anaesthetic (chloroform) for 40 minutes. He was in poor condition after the operation but rallied somewhat the next day. He died that night. No autopsy.

CASE No. 100. School boy, 11 years old. This boy was supposed to have had a fall three weeks before admission, but complained of no pain or disability at that time. He entered the Hospital with a four days' history of pain in the right thigh with swelling. He presented the picture of a severe cellulitis of the thigh with an abscess pointing in the groin. No focus of entry could be made out. The *x*-ray plates were negative as to bone lesions. His blood count was: 19,000 white; 95% poly. The blood cultures showed staphylococci. At operation pus was found diffused through the thigh muscles but no real focus or abscess cavity was found. The periosteum seemed normal where it was exposed. The cultures from the pus showed staphylococci. There was slight improvement only after the operation. His temperature stayed 103-4 F. Pulse rate 120-130. A further search was made for the abscess cavity two days later. It was found directly above the acetabulum, and the hip joint seemed to communicate with it. The abscess was widely opened and drained, the joint being likewise opened and drained. Two days later an abscess appeared on the dorsum of left hand and this was immediately opened. The pus from it contained the same organisms. Two days later a similar abscess appeared on the right hand and was similarly treated. At this time there appeared signs of a pericarditis and of a pneumonia at the base of the left lung. He failed rapidly and died on the eleventh day of his septicemia. No autopsy.

CASE No. 101. Male, 45 years, janitor. This patient entered the Hospital with a diffuse enlargement of the superficial cervical and axillary lymph nodes which had existed for about six months. He also had an enlarged liver and spleen. His blood count was: white cells, 39,000; lymphocytes, 91%. His Wassermann was negative. A diagnosis was made of chronic lymphatic leukaemia and he was treated with radium with no improvement. He then developed an effusion in the right knee. The fluid was aspirated and showed no growth. A week later he developed erysipelas about the region of the left ear and this spread to the face, neck and chest. Some pus appeared through an opening in the external auditory canal. The cultures of this showed a non-hemolytic staphylococcus. An abscess formed below the ear and was incised and at the same time one of the cervical glands was removed for microscopical examination. The report on the gland was "chronic lymphatic leukaemia." Blood cultures at this stage were sterile. A number of decayed teeth were removed at this time. Guinea pig inoculations with the gland tissue removed showed no tuberculosis. His fever and prostration continued and a few days later a blood culture showed a hemolytic streptococcus. He then developed a left mastoiditis. The pneumatic cells were found to be full of pus. The antrum was opened widely but the sinus was not exposed and the dura not opened. Some improvement followed this operation but he developed signs of pneumonia and a pneumococcus, type IV, was recovered from his sputum. The x-ray plates of chest were negative. He went on to develop a stiff neck and a Kernig sign on both sides. The fluid from lumbar puncture was sterile. He then failed rapidly and died, fifty-four days after admission. A sinus thrombosis was thought to have occurred. No autopsy.

CASE No. 102. Female, 36 years, librarian, single. This patient entered the Hospital with a history of thyroid enlargement and symptoms of exophthalmic goitre for over two years. She had a firm goitre of moderate size, the right lobe being the larger. Her heart was overacting; pulse rate 110. There was a coarse tremor of fingers and tongue and marked nervousness. The procedures preliminary to her final anaesthesia were carried out to the minutest detail every day for several days before her operation (so that she did not anticipate her operation on the day on which it was done). The usual collar incision was made and the right lobe and isthmus removed with slight bleeding and only moderate traumatism to the gland. A cigarette drain was left in. The report of the thyroid tissue removed was "Exophthalmic goitre with a small amount of colloid material. No evidence of parathyroid." Following the operation there was a little more than the usual amount of bloody discharge from the wound and some swelling of the cellular tissue of the neck appeared on either side. The drain was removed and another one inserted; there seemed to be no purulent discharge. About twenty-four hours after her operation she became very restless and her pulse rate rose to 160, and her temperature to 102 F. The quality of her pulse was good, however, and she seemed to be standing her hyperthyroidism fairly well, her pulse dropping soon to 98 to the minute and temperature to 101 F. About thirty-six hours after the operation her heart action became markedly irregular and more rapid (195) and dyspnoea appeared. She failed to respond to the usual stimulation and died about three hours later. No autopsy was allowed. The cause of her death seemed to be "postoperative hyperthyroidism."

Case No. 103. Male, 35 years, freight elevator man. This patient was struck on the chest by a heavy case of linoleum which knocked him down and fell on top of him. He was taken to one of the city hospitals where the *x*-rays showed a fracture-dislocation of one of the vertebrae. He had complete motor and sensory paralysis of the lower extremities, with loss of tactile, pain and temperature sense below the twelfth spinal segment, and incontinence of urine and feces. Three months later he was transferred to this Hospital with a diagnosis of transverse myelitis. The *x*-ray plates showed a crushing of the body of the twelfth dorsal vertebra. It was thought that some improvement might follow the removal of pressure on the cord, although the outlook seemed very poor. At operation a large mass of callus was found about the body of the twelfth dorsal vertebra which was close up against the laminae of the eleventh. The cord was found completely crushed across, its place being taken by a mass of dense fibrous tissue as tough as gristle. Several laminae above and below had been removed in the cord exposure and the cord was therefore left lying loosely in its bed. He stood the operation nicely. The wound healed cleanly and firmly throughout. He went along in about the same condition for twenty-one days when signs of a pneumonia appeared and later on a septicemia supervened, the blood cultures showing a staphylococcus aureus. He developed bed sores and these were very sluggish; large sloughs came away from them towards the end. He gradually failed and died three months after his admission to this Hospital. He lived for six months after his injury. No autopsy.

Case No. 104. Female, about 60 years of age, no occupation. This patient came to the Hospital with a four days' history of strangulation in a right femoral hernia. Her condition was poor. She was immediately operated on and a loop of gangrenous and perforated small intestine found in the sac. There was a purulent peritonitis in the lower abdomen. The loop was brought outside and a Paul tube inserted through the necrosed opening in the bowel. The pus was aspirated from the pelvis and pelvic drainage used. She gradually grew weaker after the operation and died within twenty-four hours from shock. The Paul tube drained nicely. No autopsy.

Case No. 105. Male, 64, sexton. This patient had an old gastric history suggestive of ulcer. He entered the Hospital saying that for the last five weeks he had suffered from abdominal discomfort, worse after meals, with some eructations and vomiting, the latter coming on from two to three hours after the ingestion of food. At times the vomitus had contained coffee ground material. His stools had been very dark. His abdomen was found to be markedly distended at first and no tumor could be felt. Later a mass was made out in the epigastrium. The gastric contents consisted of food with many red blood cells. Free Hcl acid: 40%. Total acidity 56%. Op. bacilli ?. His Wassermann was negative. A diagnosis was made of carcinoma of the stomach and the advisability of operation was considered, but he died before the time set for it. Autopsy revealed a carcinoma of the pyloric end of the stomach with metastases in omentum, in liver, in the hepatic and left supraclavicular lymph nodes.

Case No. 106. Male, 58 years, musician. During the past thirteen years this patient had suffered almost every year from attacks suggesting biliary calculi. Of late the attacks had been increasing in severity and there had been jaundice. When admitted he had some tenderness in the epigastrium, his liver was thought to be enlarged and he was jaundiced. His Wassermann was negative. The *x*-ray plates did not show the shadows of any calculi. At operation a small abscess was found in the anterior edge of the liver directly over the gall bladder which was thickened and contained several stones. Both cystic and common ducts were dilated and there were two stones in the common duct. There were no stones in the hepatic duct. The gall bladder with its calculi was removed. The common duct was opened and all the stones that could be felt in it were removed. The hepatic duct was drained. The liver abscess was incised and drained and a piece of its wall removed for examination. The operation was necessarily a severe one for an elderly man in his condition. Cultures made from the bile in the hepatic duct showed a gram negative bacillus. Those made from the surface of the gall stones showed a haemolysing streptococcus. After the operation the drainage of bile was profuse and the patient did nicely for about four days. He then developed a pneumonia from which he died nine days later. This pneumonia belonged to neither one of the usual four groups but was considered to be of the influenzal type. A limited autopsy was performed through the abdominal wound. There was no peritonitis. A small stone was found in the common duct several centimetres above the papilla of Vater, with perhaps a slight dilatation of common and hepatic ducts above the stone. The pancreas was normal. The cause of death seemed to have been a pneumonia.

Case No. 107. Female, 43 years, teacher. This patient had entered the medical division of the Hospital with a left upper and lower lobe pneumonia. Blood cultures showed a group III pneumococcus. She suffered from marked prostration. On the fifteenth day after admission she developed an empyema for which a thoracotomy was done with the escape of about two quarts of serous and creamy fluid. The pneumonia spread to the upper lobe on the other side and this caused her death on the twenty-fourth day of her disease. No autopsy.

Case No. 108. Female, 50 years, lady's maid. This patient entered the Hospital with a fourteen year history of goitre. She had tremor, tachycardia but no exophthalmos. The abdomen below the umbilicus seemed to be filled with nodular masses which were diagnosed as fibroids of the uterus or cystadenomata of the ovaries without symptoms. Exploratory laparotomy was first done to ascertain whether the pelvic condition was a malignant one. Simple uterine fibroids were found and the abdomen closed. She suffered a good deal from shock from this short procedure but after active stimulation recovered rapidly. Her convalescence was slow and she went home to recover strength for her thyroid operation. She re-entered the Hospital about six weeks later for this purpose. As she was still presenting the picture of a toxic hyperthyroidism with all of the symptoms except that of exophthalmos she was treated in the medical division for several weeks. While there she had what was considered to be a small patch of pneumonia which disappeared in a few days. The thyroid condition did not seem to improve after this, so that it was decided that further delay would be of no benefit and operation was advised. A suppurating cyst of the thyroid was found on the right side, and from this cyst and from the posterior surface of the right lobe there was found a suppurating tract leading down into the chest as far as the finger could reach. A partial thyroidectomy was done and the suppurating tract was drained. As the operation was being completed she suddenly stopped breathing and all attempts to revive her proved unavailing. The pathological report on the thyroid tissue removed was "Goitre." The cultures of the abscess showed a hemolytic streptococcus. No autopsy. The cause of the death was not ascertained; it was probably operative shock.

Case No. 109. Schoolboy of 13. About thirty hours before admission to the Hospital and directly after his breakfast this boy stood up on the seat of a folding chair which collapsed under him, the back of the chair striking him violently in the abdomen. The shock was sufficient to make him unconscious for several minutes. He then complained of severe abdominal pain and this persisted during the day; that evening he began to vomit and his bowels moved several times. The vomitus soon became foul smelling. His abdomen became distended and this condition persisted up to the time of admission. The urine that was passed was clear. When brought to the Hospital he had the signs of a diffuse peritonitis with general abdominal rigidity. There was shifting dullness in both flanks and a free fluid wave. White blood cells: 44,000; poly, 94%. A diagnosis was made of ruptured intestine and immediate operation advised and assented to. This was done thirty-one hours after his injury. A rupture of the jejunum was found about one foot below the pyloric end of the stomach, and from this opening there was pouring out a stream of yellowish and foul smelling material. There was a general peritonitis and in the pelvis there were several partially walled off collections of the same kind of fluid. The rent in the jejunum was sutured and the peritoneal cavity flushed with saline solution. A drain was placed to the pelvis. His condition during the operation was critical and 800 c.c. of saline solution with adrenaline were given intravenously. He was lavaged at the end of the operation. He died twenty-six hours after the operation from shock and toxaemia. No autopsy. The cultures of the peritoneal fluid taken at operation showed a haemolytic streptococcus.

Case No. 110. Schoolboy, 8 years old. He gave a history of periodic attacks of frontal headaches and of projectile vomiting with progressive loss of vision. He presented a left facial paresis. There was a left sided ataxia of arm and leg. He staggered to the left. There was a bilateral Babinski, bilateal choked disc and bilateral nystagmus. Serology was negative and so were the *x*-ray plates. A diagnosis was made of cerebellar lesion. At the first operation all operative procedures were stopped after the dura was exposed, on account of hemorrhage. Two days later the dura was incised and a cerebellar tumor (round celled sarcoma) was found in the left hemisphere. His condition improved markedly after the operation but on the fifth day edema appeared in the right side of the neck, face and scalp. The following day he became comatose and died from respiratory failure. The cultures made from the wound before death showed staphylococci. No autopsy.

CASE No. 111. Male, 38 years, electrical worker. This patient entered the Hospital with a six year history of epigastric pain and vomiting which had been only temporarily relieved by an operation on the stomach. It was impossible to get a reliable history of what was then done. His history after admission suggested a duodenal ulcer. The stomach *x*-ray plates seemed to show a duodeno-hepatic fixation and some retention of food in the stomach. The Wassermann was negative. The analysis of the tasting stomach contents showed an absence of lactic acid: total acidity = 10%; no free Hcl acid. The Ewald test meal showed: total acidity = 52%; free Hcl acid 8%; no lactic acid. Guiac test positive. Operation disclosed a confusing mass of adhesions in the upper abdomen. Around the thickened pylorus especially the visceral landmarks were obscured and the jejunum could not be located. A gastro-duodenostomy was performed by the suture method, the Cushing stitch being used. The patient did well for twenty-one days (except for a small subcutaneous abscess about the wound which was opened and drained). He then developed a severe diarrhoea and vomiting soon set in. This became fecaloid shortly and he grew progressively weaker and died on the twenty-third day after his operation. At autopsy it was found that the gastro-duodenal stoma had partially closed and that a fistula had formed between the duodenum and colon, right next to the stoma. There was no evidence of peritonitis. There was a lobular pneumonia. Death seemed to have occurred from inanition as much as from anything else.

CASE No. 112. Male, 45 years, in the insurance business. This patient gave a history of persistent headaches for several months. On one occasion there had been confusion and stupor for several days. There had been projectile vomiting at times and considerable irritability for the past six months. There was a history of long standing earache on the left side. He presented slight right-sided facial palsy and increased deep reflexes on the right side; superficial ones absent. There was a bilateral choked disc. Serology negative. A diagnosis was made of left temporosphenoidal tumor. Operation revealed a cyst in the left temporosphenoidal lobe. After operation he barely regained consciousness. The next day he had convulsions and moved the left upper extremity continually. He died on the fifth day. No autopsy.

CASE No. 113. Female, 57 years, housework. This patient, a markedly obese woman, entered the Hospital with a three weeks' history of coldness, blueness and pain in the right foot. Once she had a bad cramp in the calf muscles of that leg. Two weeks before admission she had fallen on the right leg and the limb had begun immediately to swell and to become painful and numb up to the knee. On admission there was a gangrene of the right leg up to the knee and this seemed to be spreading rapidly up the thigh. She was found to have a chronic myocarditis, a chronic nephritis and a marked degree of arteriosclerosis. The Wassermann was negative. Amputation was done through the middle of the thigh under intraspinal novocaine solution and "gas and oxygen." The vessels bled but little. The gangrene spread upwards, however, and she died on the eighth day after her operation. The pathological report on the amputated limb was "Gangrene with arteriosclerosis. The lumen of the posterior tibial artery is reduced to a pin point. There is obliterating endarteritis with thrombosis of the vein."

Case No. 114. Male, 49 years, lineman. This patient had been operated upon several months previously for a tumor in the region of the chin. The operation had been done in one of the city hospitals and apparently only a wedged-shaped piece of tissue had been removed. Two months later lumps had appeared under the lower jaw on the right side. These had soon become hard and fixed to the jawbone. On admission he evidently had a recurrence in the scar and metastatic glands in the neck. An extensive plastic operation was performed and the submaxillary and deep cervical glands on that side also removed by "bloc dissection." The pathological report was "Epithelioma of the lower lip with metastases in the submaxillary lymph glands. No involvement of the cervical lymph glands." At the completion of the operation rubber covered tubes of radium were placed in the submaxillary and mental regions and were left in for twelve and eighteen hours respectively. The flaps did nicely. Three days after operation he had some pulmonary signs which were thought to be due either to a patch of pneumonia or to an embolus. He left the Hospital on the fourteenth day with a sinus at the site of drainage and he was then advised to have massive doses of *x*-ray applied to the flaps. He returned to the out-patient department at intervals for dressings. About one month after leaving the Hospital he had a sharp hemorrhage from the sinus and was rushed in again in a very weak and anaemic condition. He received an intravenous infusion of 800 c.c. of saline solution and six hours later another of 600 c.c. The sinus was packed. In spite of this and other active stimulation and before hurried arrangements or a direct transfusion could be completed he died. No autopsy. The cause of his death was secondary hemorrhage.

Case No. 115. Girl, 5 years old. This patient was admitted with a history of having contracted a cold ten days previously. This had almost entirely cleared up. She had always been constipated and this condition became more marked three days before admission. She developed fever and abdominal pain. Enemata relieved the constipation. She had vomited once following the administration of a purgative. On admission to the Hospital she was apathetic. The abdomen did not present definite signs of a peritonitis, although there was present a slight degree of right rectus rigidity low down and slight tenderness in the lower abdomen. There was no mass nor suspicion of induration and no evidence of free fluid. The lungs were clear and the *x*-ray plates of the chest were negative. Her pulse rate was 120, temperature 103 F., respiration 30. The diagnosis seemed doubtful and she was watched for twenty-four hours. Her blood count was: 30,300 whites, 85% poly. The abdominal signs remained unchanged. She vomited several times. The abdomen then became more rigid and a diagnosis of appendicitis was made. Operation revealed a peritonitis with free cloudy fluid in the pelvis but a surface congestion only of the appendix. There were many small hemorrhages scattered over the serous surfaces of the intestines. There was no Meckel's diverticulum to be seen. It was thought that the condition was one of pneumococcus peritonitis.

The appendix was removed and the pelvis drained. The pathological report on the appendix was "Chronic appendicitis with acute local peritonitis." The smears of the peritoneal fluid found at operation showed streptococci. The cultures of this fluid showed a hemolytic streptococcus. She received on the day following operation two injections of normal horse serum and an hour later 15 c.c. of Board of Health polyvalent streptococcus serum (horse) intravenously. Two doses of 16 c.c. each of this same serum were then given at twelve hour intervals subcutaneously. She received also active stimulation but all without benefit. Her septicemia progressed and she died three days after her operation of her toxemia. The origin of her peritonitis was not discovered. No autopsy.

CASE No. 116. Male, 44 years, clerk. This patient entered the medical division of the Hospital with a left lower lobe pneumonia (group I) of about one week's duration. A pneumococcus, group I, was found in the blood cultures. His Wassermann was negative. He was given several doses of antipneumococcus (group I) serum, and after this his blood cultures were found to be sterile. Four days later signs of fluid appeared in the left chest but no fluid was obtained by aspiration. Two days later, however, a turbid fluid was aspirated. This showed 80% of poly's, and the cultures of it showed a pneumococcus, group I. Under chloroform anaesthesia a thoracotomy was done with partial excision of ninth rib and drainage. He drained well but remained cyanosed and on the next day this condition was much worse. Blood cultures then taken showed a pneumococcus, group I, again. He grew rapidly worse. A phlebotomy was done in which 600 c.c. of blood were removed with only slight relief, and he died soon afterwards.

This case was considered to be an exceptional one, his reinfection being perhaps explained by assuming that the immunizing power of the patient was so low that he was unable to neutralize the bacteremia that he was carrying; a reinfection of a group I case having so far rarely been recorded. No autopsy.

CAUSES OF DEATH—PRESBYTERIAN HOSPITAL—YEAR 1917

Case No.	*Immediate Cause of Death*	*Primary Pathological Condition*	*Operation*	*Autopsy*
1	Embolism? Edema of glottis?	Peritonsillar abscess	Yes	No
2	Embolism?	Deep burns of head and upper extremity	No	No
3	Edema of brain	Suspected tumor of brain	Yes	No
4	Compression of brain	Ventricular and cerebellar hemorrhage	No	Yes
5	Meningitis and septicemia	Abscess of temporo sphenoidal lobe from mastoiditis	Yes	Yes
6	Cerebral thrombosis?	Chr. cystitis, hypertrophy of prostate	Yes	No
7	Toxemia	Abscess of lung	Yes	No
8	Toxemia	Multiple abscesses of body	Yes	Yes
9	Purulent peritonitis and toxemia	Perforation of loop of jejunum during operation	Yes	Yes
10	Lobar pneumonia (P. O.)	Carcinoma of ascending colon	Yes	No
11	Pneumococcus peritonitis toxemia	Rupture of ileum	Yes	Yes
12	Edema of medulla	Multiple sclerosis of spinal cord	Yes	Yes
13	Intraperitoneal hemorrhage	Stricture of hepatic ducts (old calculus case); old biliary fistula	Yes	Yes
14	Tuberculous peritonitis	Tuberculous appendix?	Yes	Yes
15	Compression of brain	Old subdural hemorrhage	Yes	No
16	Acute interstitial nephritis	Hypertrophy of prostate (all lobes)	Yes	Yes
17	Status lymphaticus?	Hare lip and cleft palate	Yes	No
18	Cerebral hemorrhage	Endothelioma of frontal lobe	Yes	Yes
19	Intracranial hemorrhage	Idiopathic hepatic cirrhosis of children	Yes	Yes (limited)
20	Septicemia	Multiple abscesses of body	Yes	No
21	Post operative pneumonia	Cholelithiasis with chronic appendicitis	Yes	No
22	Septicemia	Multiple empyema (post pneumonia)	Yes	No
23	Pneumonia	Diabetes	Yes	No
24	Septicemia from hypodermic injection	Was being treated for suspected rabies	Yes	No
25	Septicemia	Abscess of thigh	Yes	No
26	Septicemia	Gangrene of toe	Yes	No
27	Septic peritonitis paralytic ileus	Perforated duodenal ulcer	Yes	Yes
28	Edema of brain (P. O.); compression of brain	Endothelioma of brain	Yes	Yes

CAUSES OF DEATH—PRESBYTERIAN HOSPITAL—YEAR 1917 *–continued*

Case No.	*Immediate Cause of Death*	*Primary Pathological Condition*	*Operation*	*Autopsy*
29	Empyema	Pneumonia	Yes	No
30	Toxemia	Adenocarcinoma of stomach	Yes	Yes
31	Septicemia	Septic arthritis of knee	Yes	Yes
32	Exhaustion	Carcinoma of cecum and ascending colon	Yes	No
33	Empyema	Pneumonia	Yes	No
34	Embolism?	Post operative pneumonia and cholelithiasis	Yes	No
35	Pulmonary edema?	Old cerebral hemorrhage	Yes	No
36	Peritonitis (ileus)	Acute and chronic inflammation of ileum and acute and chronic inflammation of appendix	Yes	No
37	Peritoneal hemorrhage	Carcinoma of pancreas	Yes	No
38	Cerebral hemorrhage (traumatic)	Fractured skull	Yes	Yes
39	Uremia	Chronic empyema	Yes	No
40	Septicemia	Empyema, pneumonia	Yes	No
41	Uremia	Right calculous pyonephritis (other kidney previously removed)	No	Yes
42	Empyema	Pneumonia and subphrenic abscess	Yes	No
43	Cerebral hemorrhage	Traumatism to head	No	No
44	Uremia	Chronic nephritis	Yes	No
45	Pneumonia P. O.	Carcinoma of breast and axillary glands (male)	Yes	No
46	Purulent peritonitis	Acute gangrenous appendicitis	Yes	No
47	Septicemia	Septic arthritis of knee	Yes	No
48	Uremia	Chronic nephritis	No	No
49	Septicemia	Septic peritonitis (origin unknown)	Yes	No
50	Tetanus P. O.	Chronic appendicitis, cystic ovary uterine retroflexion	Yes	No
51	Shock P. O.	Typhoid pyonephrosis	Yes	Yes
52	Septicemia	Bilateral acute mastoiditis	Yes	No
53	Pneumonia P. O	Carcinoma of esophagus	Yes	No
54	Compression of brain	Suspected tumor of brain	Yes	No
55	Exhaustion	Carcinoma of stomach	Yes	No
56	Shock	Strangulated hernia (femoral)	Yes	No
57	Pneumonia P. O.	Cholelithiasis and subphrenic abscess	Yes	No
58	Septicemia	Carbuncle of back	Yes	No
59	Shock	Carcinoma of stomach	Yes	No

CAUSES OF DEATH—PRESBYTERIAN HOSPITAL—YEAR 1917—*continued*

Case No.	*Immediate Cause of Death*	*Primary Pathological Condition*	*Operation*	*Autopsy*
60	Cerebral hemorrhage	Traumatism to brain	No	No
61	Purulent peritonitis	Abscess of Fallopian tube	Yes	No
62	Shock	Annular carcinoma of splenic flexure of colon	Yes	No
63	Peritonitis (ileus) P. O.	Fecal fistula resulting from resection of bowel for gangrene due to intestinal obstruction by band from old appendicitis	Yes	No
64	Septicemia	Suppurating compound fracture of the tibia with septic infection of knee joint	Yes	No
65	Cerebral hemorrhage and laceration of brain	Traumatism to head	Yes	No
66	Septic peritonitis	Acute perforated gangrenous appendix	Yes	No
67	Septicemia	Multiple abscesses of lung following pneumonia	Yes	No
68	Myocarditis	Hypertrophy of prostate with calculus	Yes	Yes
69	Chronic colitis	Hypertrophy of prostate with acute cystitis	Yes	No
70	Spreading peritonitis	Gangrene of ileum (cause?)	Yes	No
71	Cerebro-spinal meningitis	Old bullet wound of spine	Yes	Yes
72	Septicemia	Cellulitis of neck	No	Yes
73	Shock (hemorrhage?)	Carcinoma of rectum	Yes	No
74	Obstructive jaundice with chronic nephritis	Cholelithiasis	Yes	No
75	Septicemia	Gangrene of toe (arteriosclerosis and diabetes)	Yes	No
76	Compression of brain	Glioma of brain	Yes	Yes
77	Compression of brain	Suspected cerebellar tumor	Yes	No
78	Compression of brain	Adenoma of hypophysis	Yes	No
79	Shock	Abscess of lung	Yes	No
80	Pneumonia P. O.	Carcinoma of cystic duct obstructing hepatic ducts	Yes	Yes
81	Peritonitis (ileus)	Acute appendicitis with paratyphoid infection	Yes	No
82	Septicemia	Empyema (post pneumonia)	Yes	No
83	Shock	Carcinoma of uterus	Yes	No
84	Shock	Carcinoma of ileum and cecum	Yes	No
85	Peritonitis	Ovarian cyst	Yes	No

CAUSES OF DEATH—PRESBYTERIAN HOSPITAL—YEAR 1917 *continued*

Case No.	*Immediate Cause of Death*	*Primary Pathological Condition*	*Operation*	*Autopsy*
86	Status lymphaticus?	Adenoma of thyroid	Yes	Yes (Partial)
87	Peritonitis (ileus)	Intestinal obstruction from bands (old appendicitis)	Yes	No
88	Peritonitis (ileus)	Pyosalpinx	Yes	No
89	Intestinal obstruction	Carcinoma of uterus and cervix (previous Percy operation)	No	Yes
90	Diabetes	Carbuncles of neck	Yes	Yes
91	Septicemia	Gangrene of toe and cellulitis of leg	Yes	No
92	Peritonitis (ileus)	Gangrenous appendicitis with purulent peritonitis	Yes	No
93	Uremia (anuria)	Renal calculus	Yes	No
94	Septicemia	Gangrene of toe and cellulitis of leg	Yes	Yes
95	Pulmonary edema	Suspected brain tumor	No	No
96	Shock	Abscess of lung following pneumonia	Yes	No
97	Shock	Carcinoma of neck	Yes	No
98	Exhaustion	Retroperitoneal sarcoma	Yes	No
99	Shock	Perforated duodenal ulcer	Yes	No
100	Septicemia	Multiple abscesses of body	Yes	No
101	Septicemia	Multiple abscesses of body (mastoiditis, erysipelas)	Yes	No
102	Hyperthyroidism P. O.	Exopthalmic goitre	Yes	No
103	Septicemia	Old crush of spinal cord	Yes	No
104	Shock	Strangulated femoral hernia; perforated and gangrenous bowel	Yes	No
105	Toxemia	Carcinoma of stomach	No	Yes
106	Pneumonia P. O.	Cholelithiasis hepatic abscess	Yes	Yes
107	Pneumonia (right)	Pneumonia (left); empyema (left)	Yes	No
108	Shock	Suppurating cyst of thyroid	Yes	No
109	Septicemia	Traumatic rupture of jejunum	Yes	No
110	Septicemia	Carcinoma of cerebellum	Yes	No
111	Inanition	Pyloric stenosis	Yes	Yes
112	Compression of brain	Cyst of temporo-sphenoidal lobe	Yes	No
113	Septicemia	Gangrene of leg (endarteritis)	Yes	No
114	Secondary hemorrhage	Recurrent epithelioma of lip	Yes	No
115	Septicemia	Streptococcus peritonitis (cause unknown)	Yes	No
116	Septicemia	Pneumonia (empyema)	Yes	No